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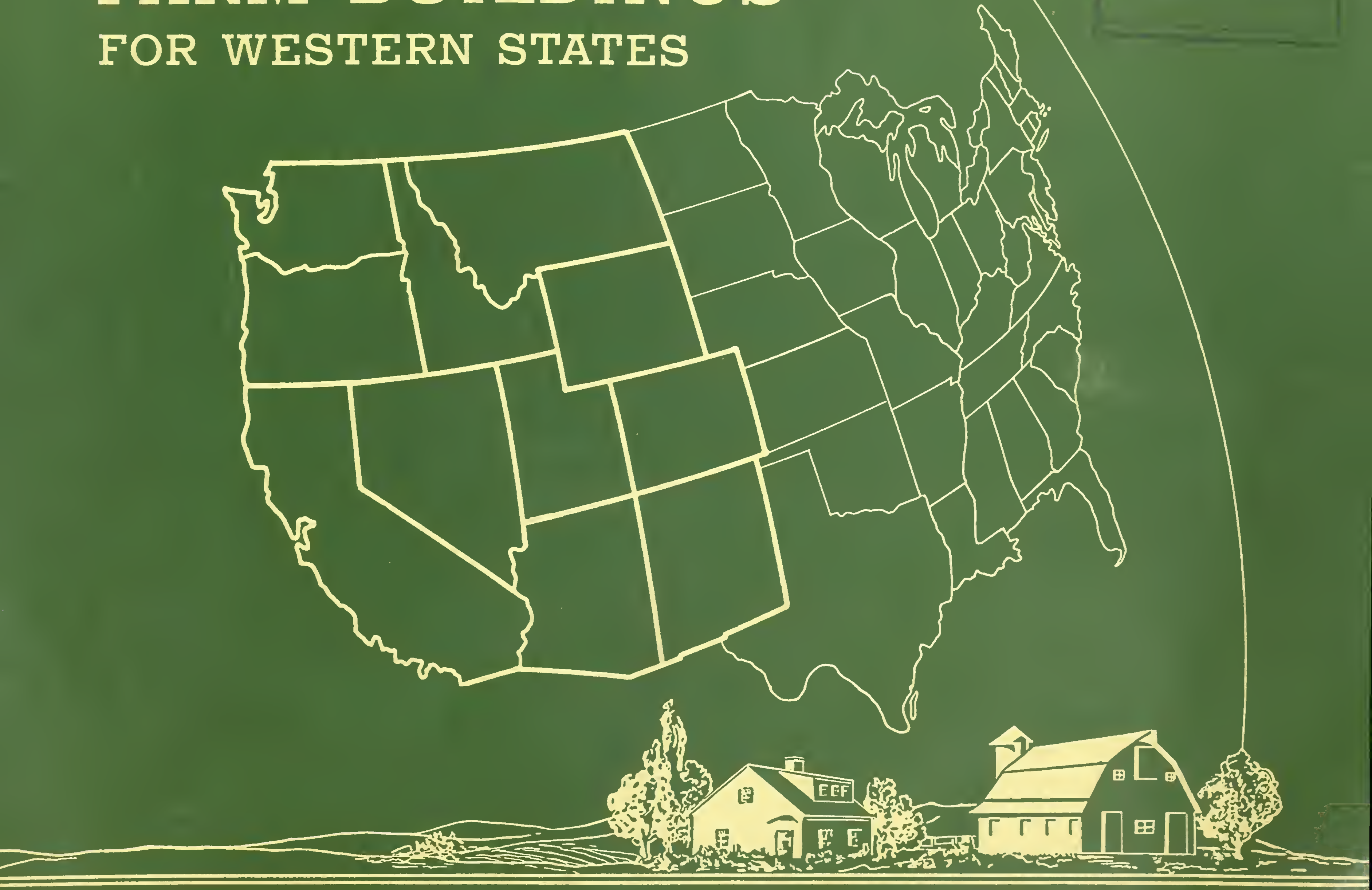
PLANS OF FARM BUILDINGS

FOR WESTERN STATES



U. S. DEPARTMENT OF AGRICULTURE

MISCELLANEOUS PUBLICATION No. 319

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INDEX OF DESIGN NUMBERS

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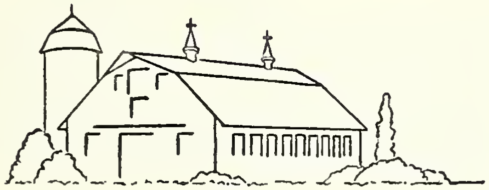
PLANS OF FARM BUILDINGS FOR WESTERN STATES



Compiled by

THE BUREAU OF AGRICULTURAL ENGINEERING AND THE EXTENSION SERVICE IN COOPERATION WITH THE FOLLOWING COLLEGES AND UNIVERSITIES AND THEIR COOPERATIVE EXTENSION SERVICES IN AGRICULTURE AND HOME ECONOMICS

College of Agriculture, University of Arizona	Tucson, Ariz.
College of Agriculture, University of California	Davis, Calif.
Colorado State College	Fort Collins, Colo.
College of Agriculture, University of Idaho	Moscow, Idaho.
Montana State College	Bozeman, Mont.
College of Agriculture, University of Nevada	Reno, Nev.
New Mexico College	State College, N. Mex.
Oregon State Agricultural College	Corvallis, Oreg.
Utah State Agricultural College	Logan, Utah.
State College of Washington	Pullman, Wash.
College of Agriculture, University of Wyoming	Laramie, Wyo.

UNITED STATES DEPARTMENT OF AGRICULTURE · MISCELLANEOUS PUBLICATION NO. 319 · WASHINGTON. D. C., FEBRUARY 1939

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INTRODUCTION

FOR a number of years the colleges of agriculture and the agricultural extension services of most States, as well as the Bureau of Agricultural Engineering of the United States Department of Agriculture, have been supplying prospective builders with plans for various types of farm structures. This book brings together a selection of these plans which, in general, are adapted to the 11 Western States and are available through their agricultural extension services.

The plans were selected by agricultural engineers representing the colleges of agriculture and extension services of the Western States to illustrate building recommendations for dwellings, barns and shelters, storages for farm products and equipment, and for other purposes. The construction recommended is safe and economical. The appearance of the buildings is planned to harmonize with types prevalent in the region.

Working drawings for the construction of these buildings may be obtained at low cost through the county agricultural extension agent, or from the extension agricultural engineer at the address of the State college or university shown on page 3.

The county agricultural agent can usually supply information about other farm-building plans especially suitable for special climatic or local conditions in the State. Recommendations for ventilation and insulation of structures vary from Washington to New Mexico; also, city ordinances and State health regulations governing the sale of whole milk differ sufficiently to require that dairy-barn and milk-house plans be approved locally.

Special drawings to meet individual needs are not furnished by the agricultural colleges and extension services. The services of architects and reputable commercial agencies are recommended for altering these plans for special requirements and for the specifications of materials different from those shown.

Before initiating the construction of dairy barns and milk houses the local dairy inspection agency should be consulted for approval of the proposed location, arrangement, and construction details.

PLANNING FOR LOCAL CONDITIONS

THE plans in this book were selected by representatives of the State agricultural colleges in the 11 Western States as being widely adapted to that region. This does not mean that each one of them is suitable in all parts of the region. Before selecting a plan, the prospective builder should consult the county agricultural agent or the building specialists at the State agricultural college.

Most of the structures have gone through the test of actual use which has proved them suitable from the standpoint of sound construction, convenience, sanitation, and economy under the conditions for which they were intended. In most cases the book supplies a fairly wide range for selection. Plans of some structures because of their purpose are suitable anywhere.

Climatic conditions in the West vary over an extremely wide range. Figure 1 shows the region divided into zones of average winter temperatures. The conditions within these zones, or within any one State, are not uniform but vary with the altitude, rainfall, wind, and influence of foggy weather along the coast. These factors must be considered in the construction of buildings because, in some instances, the drawings may not provide for sufficiently deep foundations, enough insulation, adequate bracing, or suitable roof covering.

The variation in building materials native to this region is as wide as the variation in climatic conditions. Wood is the most plentiful and is obtainable in species having different properties which fit them better for some uses than for others (1756).[1] Many ranch and farm buildings are made of logs—a good use of natural material (1582, 1660). In the southern area local builders make sun-dried bricks of earth and straw for adobe buildings (1772).

Where sand and gravel or broken stone are readily available, they may be used as in concrete (1772), or with an asphalt binder in floors or pavings. In some localities field and ledge stone are abundant and are

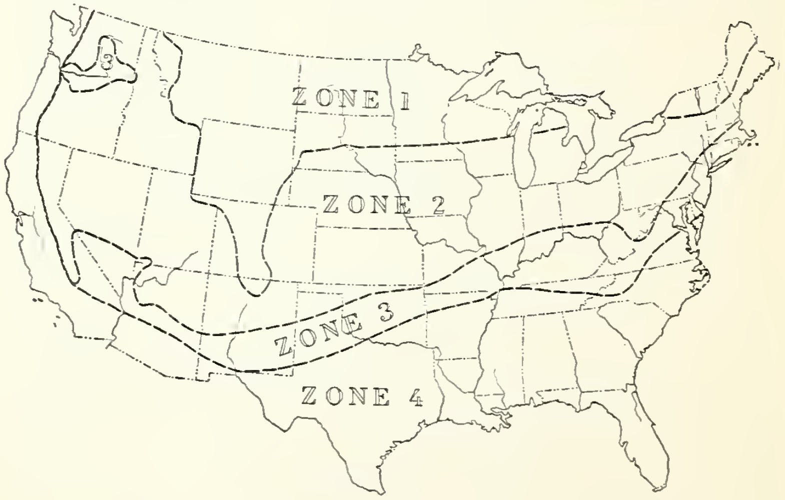

FIGURE 1.—The mean monthly winter temperatures are below freezing in zone 1 from October to April, in zone 2 from November to April 1, in zone 3 from late November to early March, and in zone 4 they are seldom below freezing.

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[1] These numbers refer to the Farmers' Bulletins listed on p. 120.

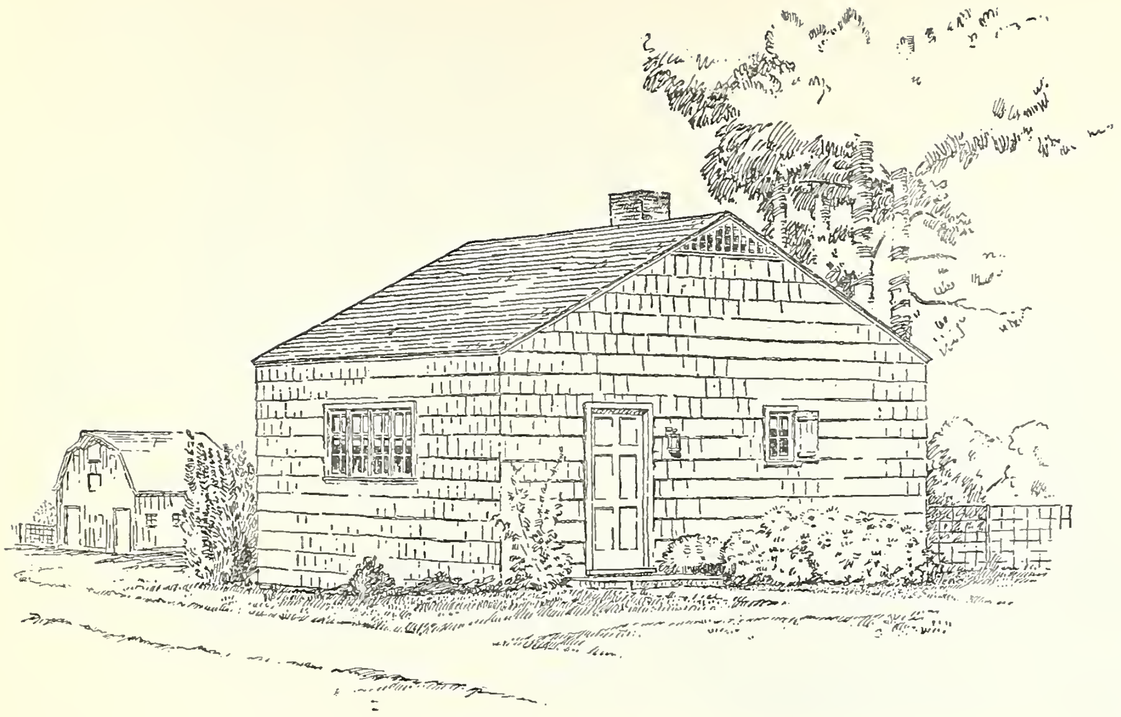
used in their rough, natural state. When laid properly in good mortar they make attractive and long-lived structures.

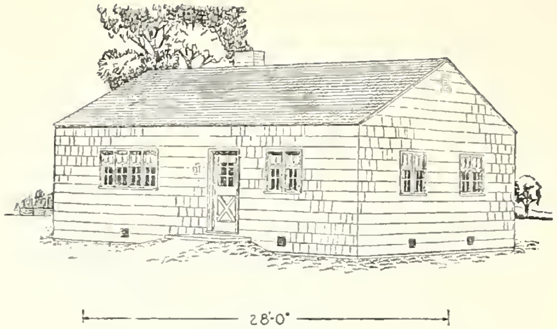
Cedar and redwood shingles are produced in the region, but there are available many commercial roof coverings that are economical, durable, fire-resistant, and attractive (1751).

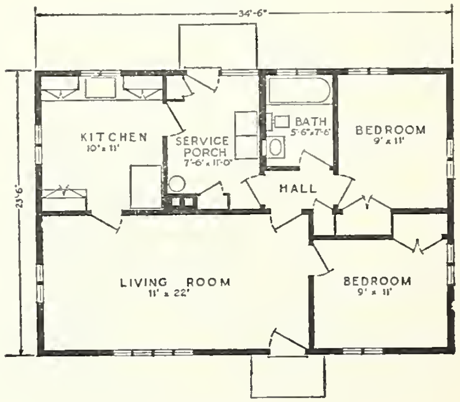
Other commercial building materials are readily obtainable and should be considered. Most of the plans shown provide for frame construction because at present wood is the most commonly used building material on farms. However, in most cases they can be erected equally well of other materials, the selection depending upon prices and the skill of local builders in using the different materials. Information on the use of various materials can be obtained from local dealers, manufacturers, and from trade associations such as those listed below:

American Zinc Institute, 60 East Forty-second Street, New York City.
Asphalt Institute, 801 Second Avenue, New York City.
Asphalt Shingle and Roofing Institute, 2 West Forty-fifth Street, New York City.
Brick Manufacturers Association, Guarantee Title Building, Cleveland, Ohio.
Committee on the Relation of Electricity to Agriculture, 1120 Garland Building, Chicago, Ill.
Copper & Brass Research Association, 25 Broadway, New York City.
Edison Electric Institute, 420 Lexington Avenue, New York City.
Gypsum Association, 211 West Wacker Drive, Chicago, Ill.
Insulation Board Institute, 155 North Clark Street, Chicago, Ill.
National Board of Fire Underwriters, 85 John Street, New York City.
National Lime Association, 927 Fifteenth Street, NW., Washington, D. C.
National Lumber Manufacturers Association, 1337 Connecticut Avenue, Washington, D. C.
National Paint, Varnish & Lacquer Association, 2201 New York Avenue NW., Washington, D. C.
National Rock and Slag Wool Association, 1270 Sixth Avenue, New York City.
Portland Cement Association, 33 West Grand Avenue, Chicago, Ill.
Sheet Steel Trade Committee, Oliver Building, Pittsburgh, Pa.
Structural Clay Products, Inc., 1427 I Street NW., Washington, D. C.
Wall Paper Association of the United States, 10 East Fortieth Street, New York City.

The question of cost of a structure cannot be answered without exact information on many variable factors, such as local prices of materials, amount of material and labor to be supplied by the farm and whether the work is to be on the day-labor basis, on the basis of cost of material and labor plus a certain bonus, or by contract. The most accurate method of ascertaining the cost is to submit the plans and specifications to two or three local builders and obtain written bids for which they will erect the structure complete. All bidders should be required to submit bids on the basis of the same quality of materials, equipment, and workmanship.

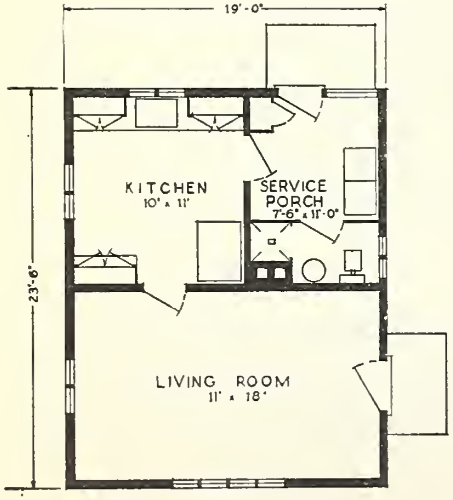






PLAN

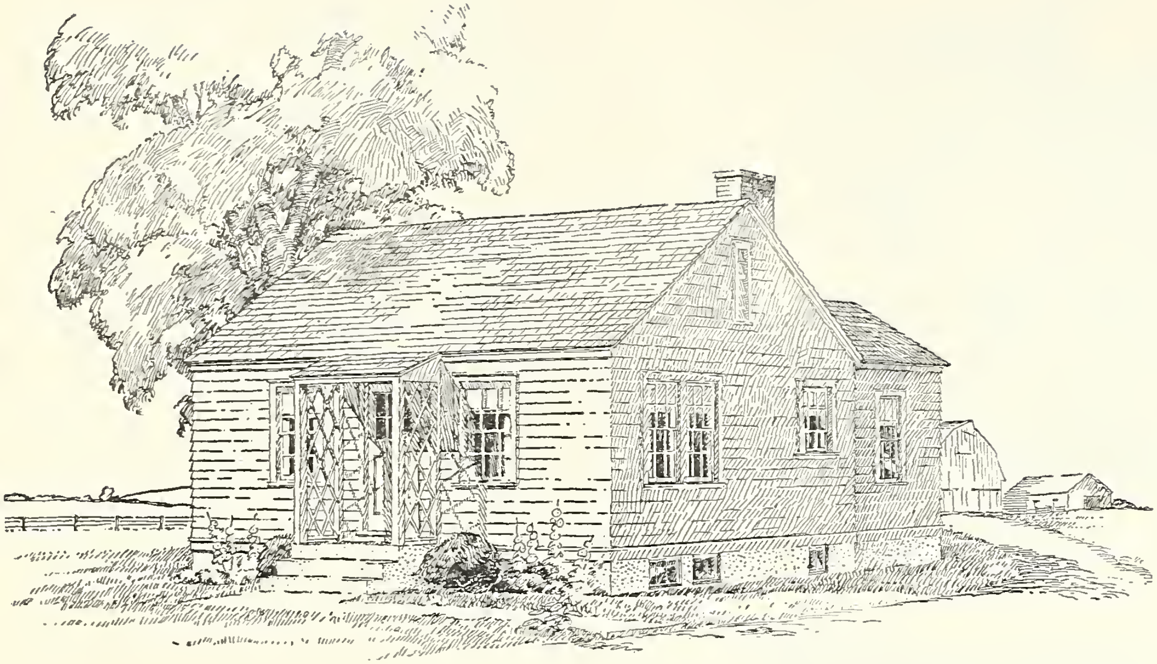
2- TO 5-ROOM FARMHOUSE

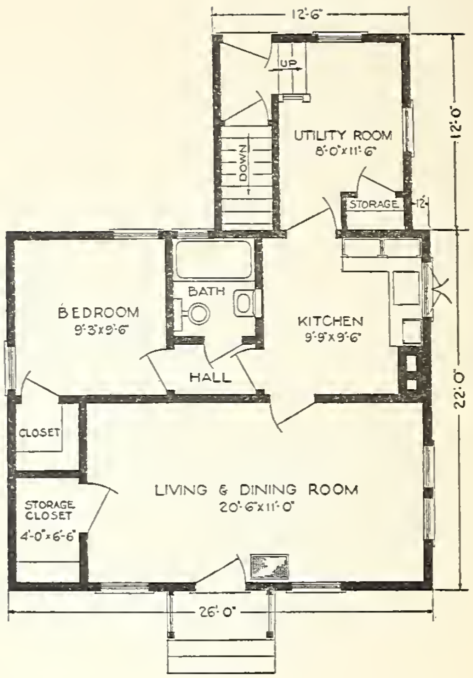


PLAN

The three-room house shown on the left is conveniently arranged for a small family; a folding couch in the living room could be used for a bed. The chimney with two flues permits the use of stoves in the kitchen and in the living room; a fireplace could be built. The three-room unit may be enlarged as shown on the right. In the plan for the larger house the service porch permits entry to all rooms without going through the kitchen and provides for laundry equipment, water heater, and two closets. The living room could be used for a dining room on occasions when the kitchen would be too small. No provision is made for a basement since above-ground storage can be provided economically. The exterior may be of wood shakes, horizontal siding, or stucco. For mild or cold localities.

Drawing No. 710–5443 (6 sheets)



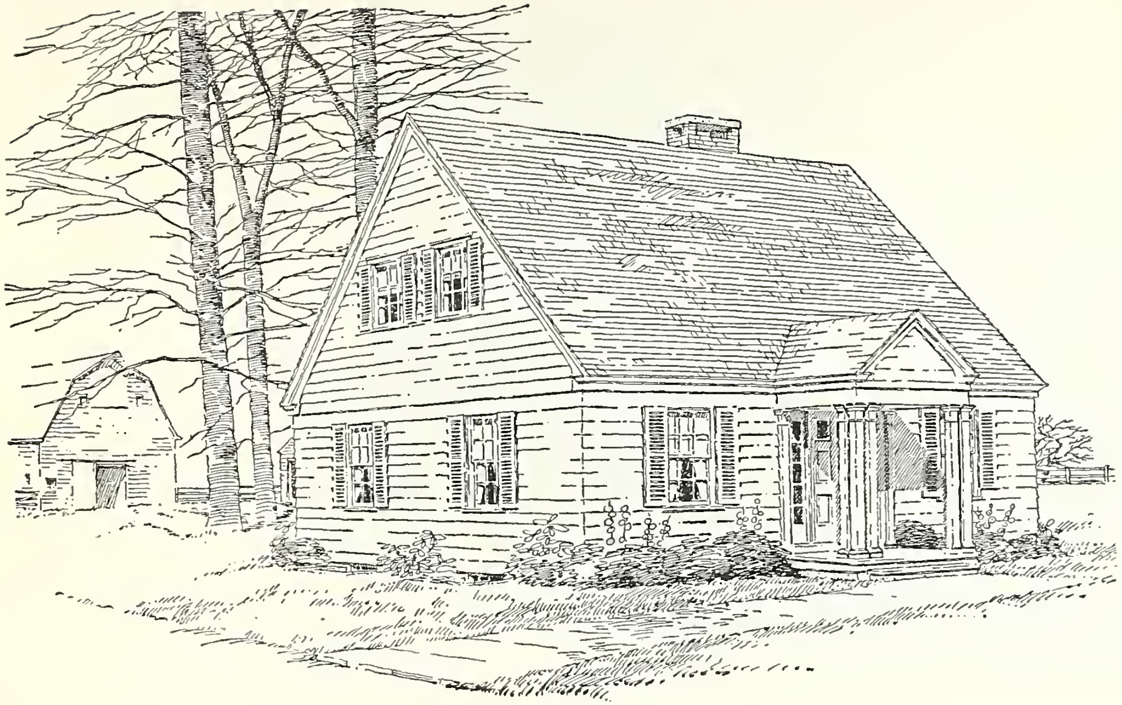


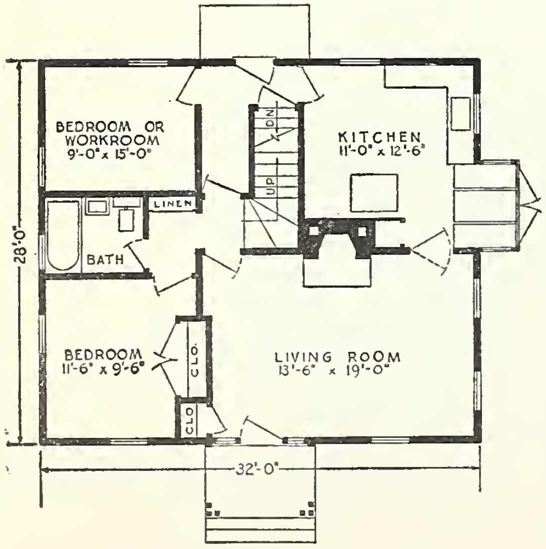
PLAN

4-ROOM FARMHOUSE

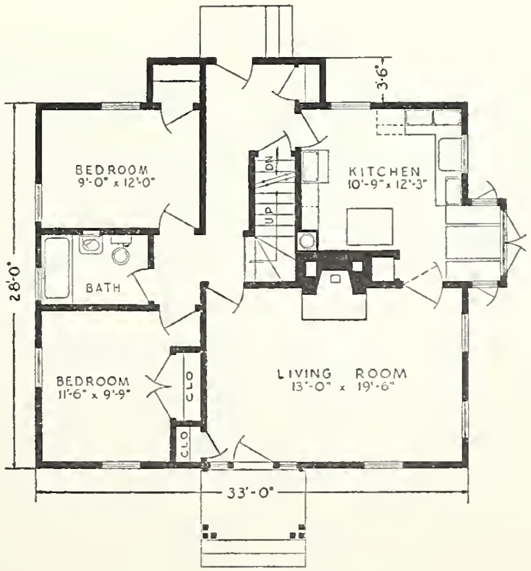
This conveniently arranged four-room cottage should prove very comfortable for a small family, but is not readily expanded by additions. The large living-dining room has a big closet which could be used for a folding bed. A small rear hall provides access from the bedroom to either the kitchen or the living room. The kitchen and utility room are happily arranged for efficient work. A full-size cellar provides room for heating equipment, vegetable storage, and other purposes. For mild or cold localities.

Drawing No. 710–5444 (3 sheets)

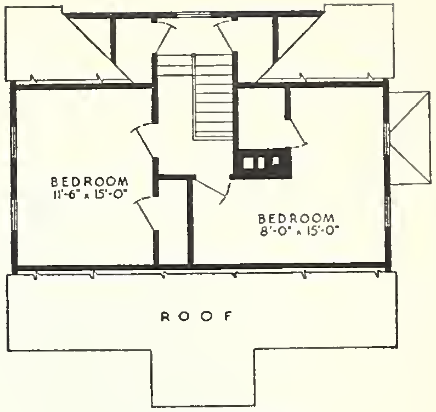




PLAN.



ALTERNATE FIRST-FLOOR PLAN

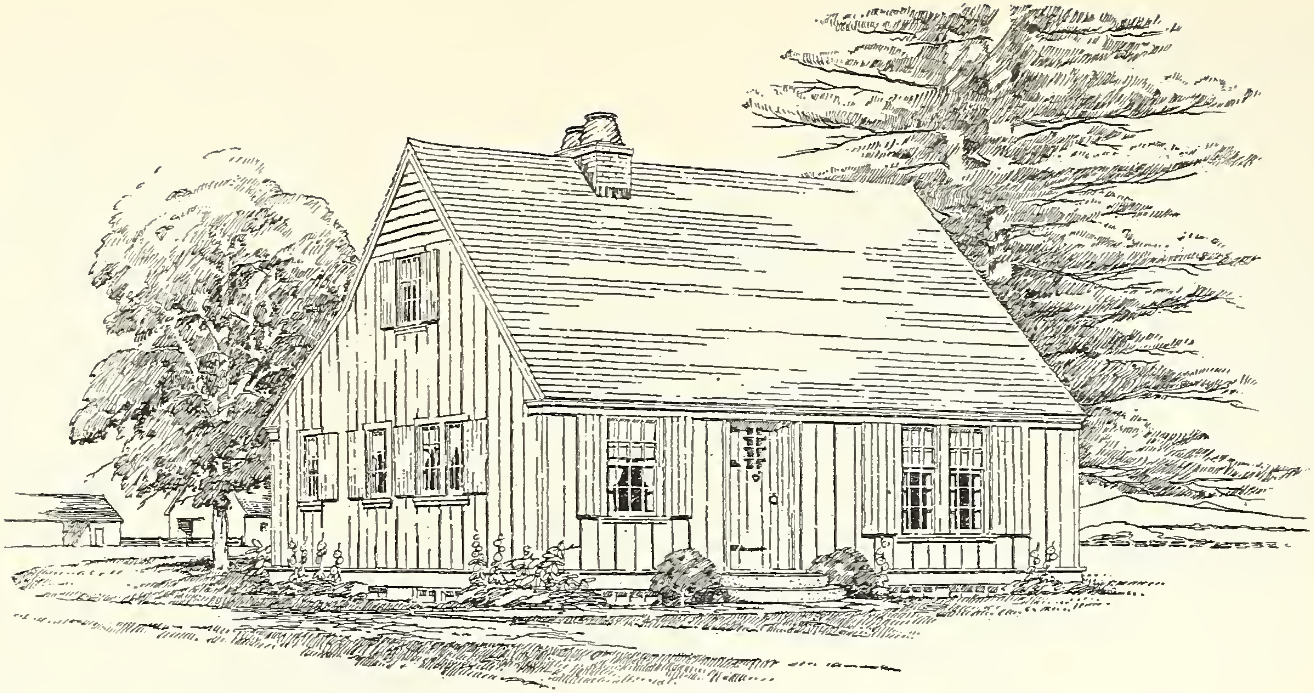


SECOND-FLOOR PLAN

6-ROOM FARMHOUSE

Two plans are shown. The alternate plan provides additional space and closets at the rear entrance which adds to convenience. The rear bedroom on both plans may be converted into a workroom by omitting the hall partition. One feature of this house is the large amount of space available for sleeping quarters. Two extra bedrooms can be provided in the attic whenever needed. Where the family is large more dining space might be provided by enlarging the dining alcove. A flat roof on the dining room would provide a sleeping and sunning space. The full basement provides space for storage, heating equipment, and laundry work. For mild or cold localities.

Drawing No. 710–5445 (5 sheets)

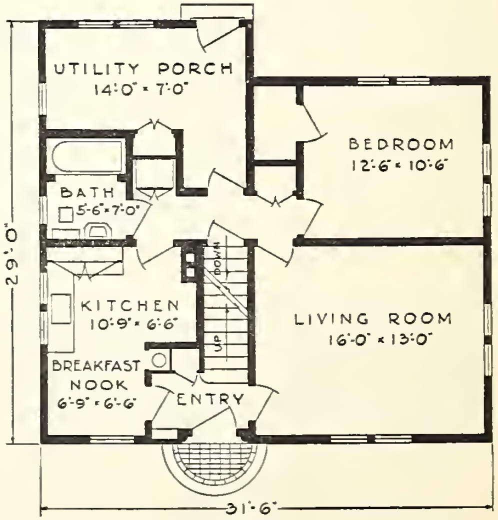


3- TO 5-ROOM FARMHOUSE

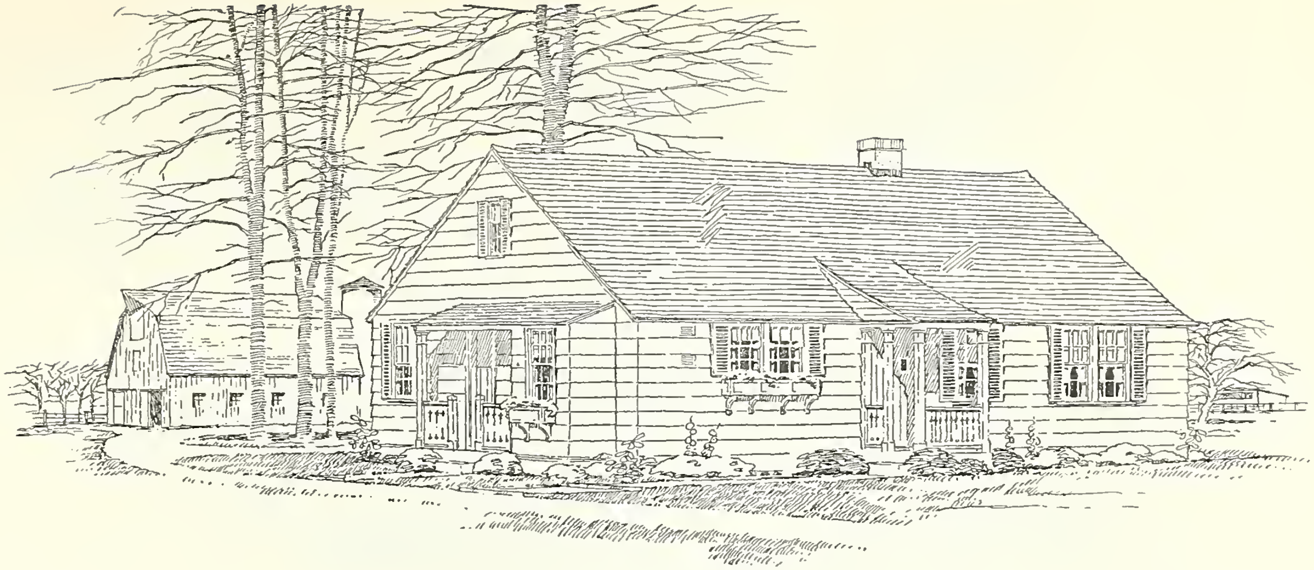
The main floor includes a well-planned kitchen and breakfast corner, living room, bathroom, bedroom, and a utility back porch. There is ample space for two 16-foot depth storerooms or bedrooms upstairs which may be finished as needed.

The kitchen-breakfast space is convenient. A rear hall of minimum length connects all rooms and the basement with the out-of-doors—no passing through one room to get to another. The construction calls for a full basement, if good drainage is available, except under rear porch. The house is to be built close to the ground. The wood exterior with 12-inch V-edged siding set vertically with battens on every other joint, will help fit the house into the landscape. The front door and entrance, if built as shown, with the ample chimney and hand-split red-stained cedar shakes for roof, and white painted wooden walls, will give the owner a distinctive home. For mild localities.

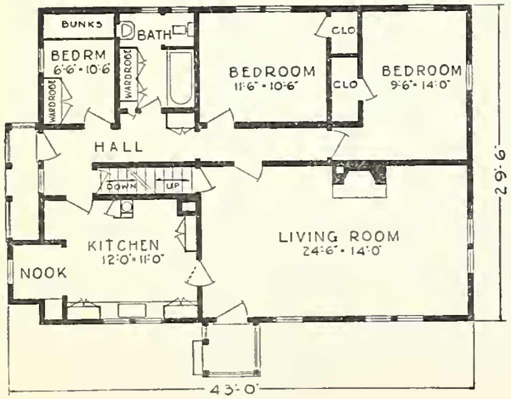
Drawing No. 710–5446 (2 sheets)



PLAN



4- TO 5-ROOM FARMHOUSE

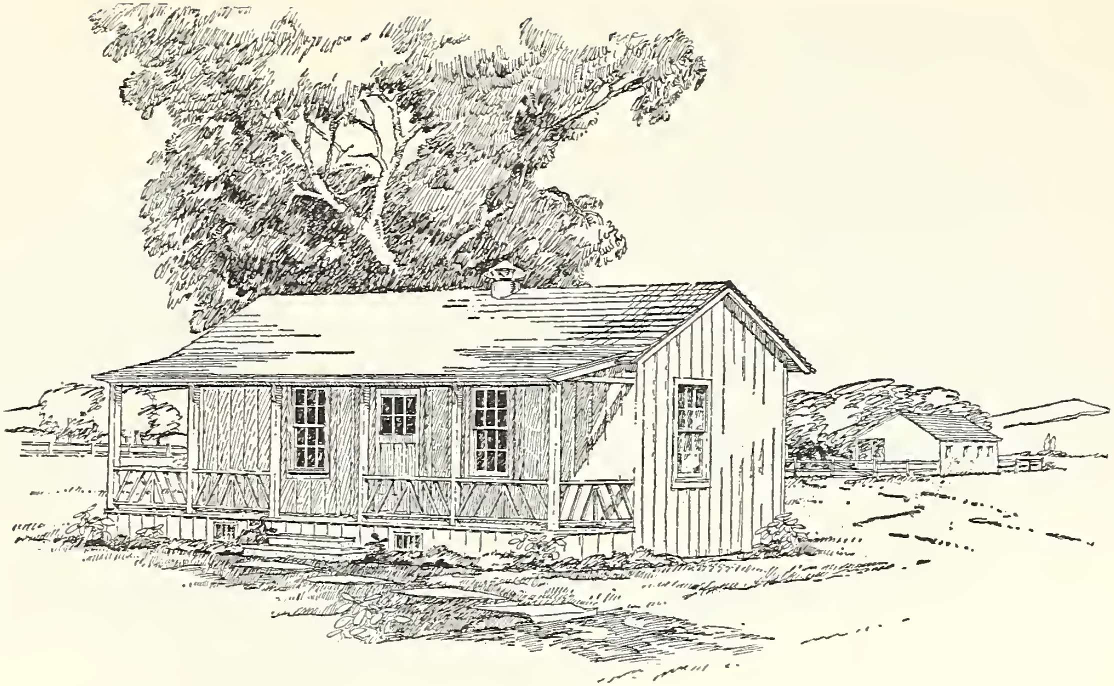


PLAN

This house with its three bedrooms will accommodate a good-sized family. A full basement can be used and the upstairs can be finished to provide two extra bedrooms. If the full amount of space is not needed at first, the size of the house can be reduced by leaving off the right-hand bedroom and shortening the living room. The working drawings show details for both the large and the shortened house.

The kitchen, located at the front, is well planned and convenient to the side entrance and the basement stairs. The small bedroom has built-in bunks and ample wardrobe for the children. The side hall is especially convenient for a typical farmhouse. For mild or cold localities.

Drawing No. 710–5447 (4 sheets)

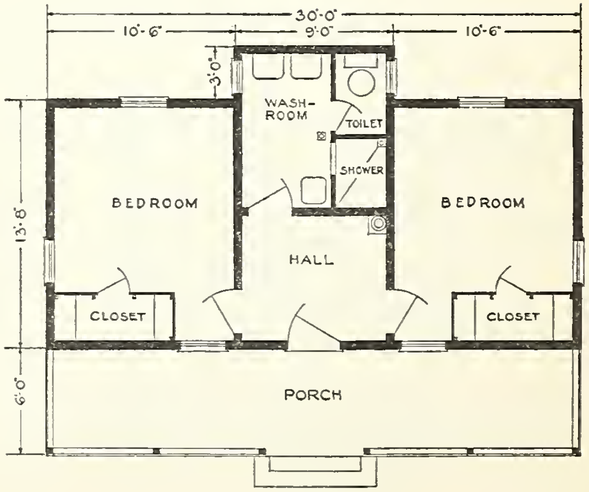


4-ROOM BUNKHOUSE

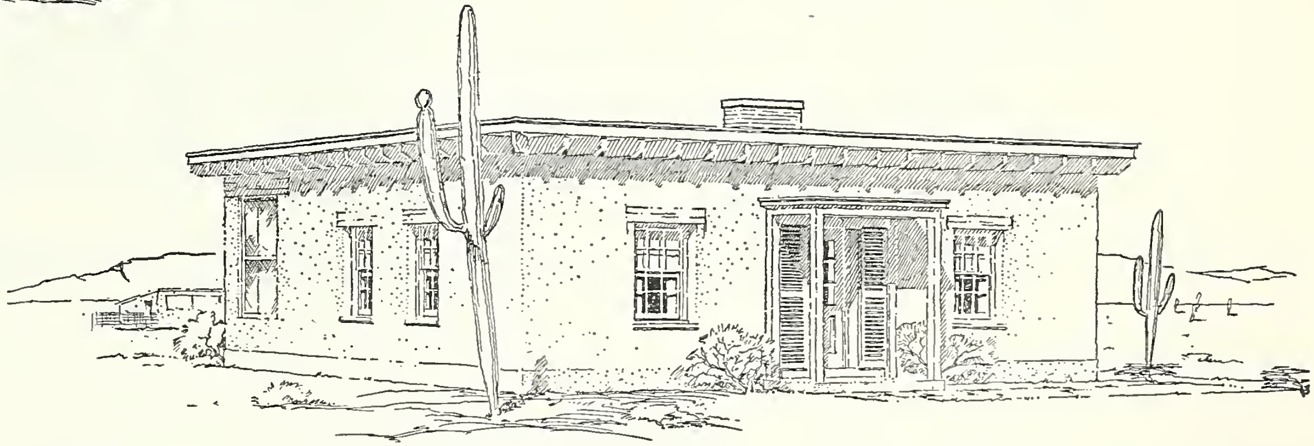
This bunkhouse is designed for housing regular farm or migratory abor and has no kitchen. The two arge bedrooms may be equipped with bunks and each has a roomy closet. The washroom contains two washbowls, a toilet, and a shower. The entrance hall affords space for a stove to heat the whole house; however a chimney should be built unless an oil heater is used.

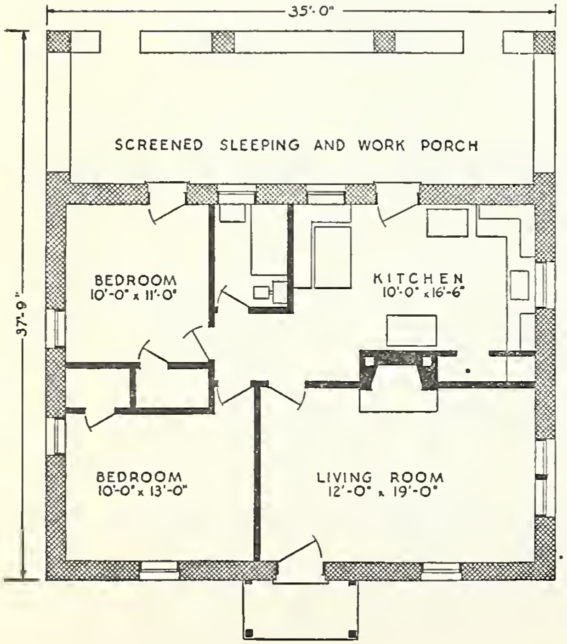
The drawings provide for a concrete foundation, wood frame with inside walls plastered, an exterior wall of vertical siding or shingles, and a shingle roof. For mild localities.

Drawing No. 710–5448 (3 sheets)



PLAN



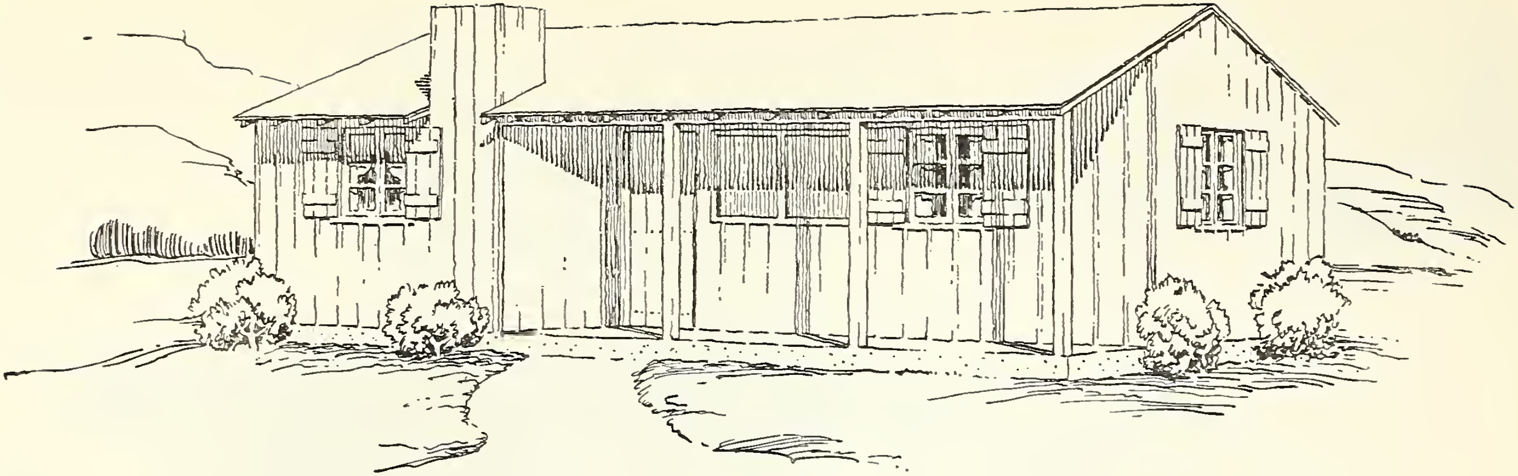


PLAN

4-ROOM FARMHOUSE

The general arrangement of this house is similar to that of the log house No. 6526. The architecture has been adapted to adobe and to the tradition of the Southwest. The flat roof, insulated with a covering of earth, is built so that air will circulate from front to rear between the roof joists in the space between the roof and ceilings. The sketch at the upper left suggests the use of random length and sized logs and a parapet which are not uncommon for adobe buildings. No basement is provided. The 8-foot rear porch when screened or shaded with curtains makes comfortable living or sleeping quarters. It is designed for mild localities.

Drawing No. 710–5486 (2 sheets)



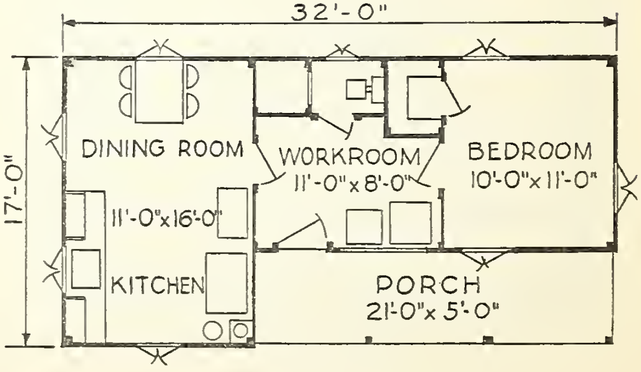
3-ROOM FARMHOUSE

This farmhouse was designed as a temporary home for warm climates. To keep construction costs low, the number and size of rooms has been kept at a minimum, a "frameless" type of construction suitable to the size and style of architecture has been utilized, and the selection of materials and other features of the design made with particular regard to their suitability and low installation cost. Wall studs are used only at door openings and in corners, and a waxed concrete floor is provided.

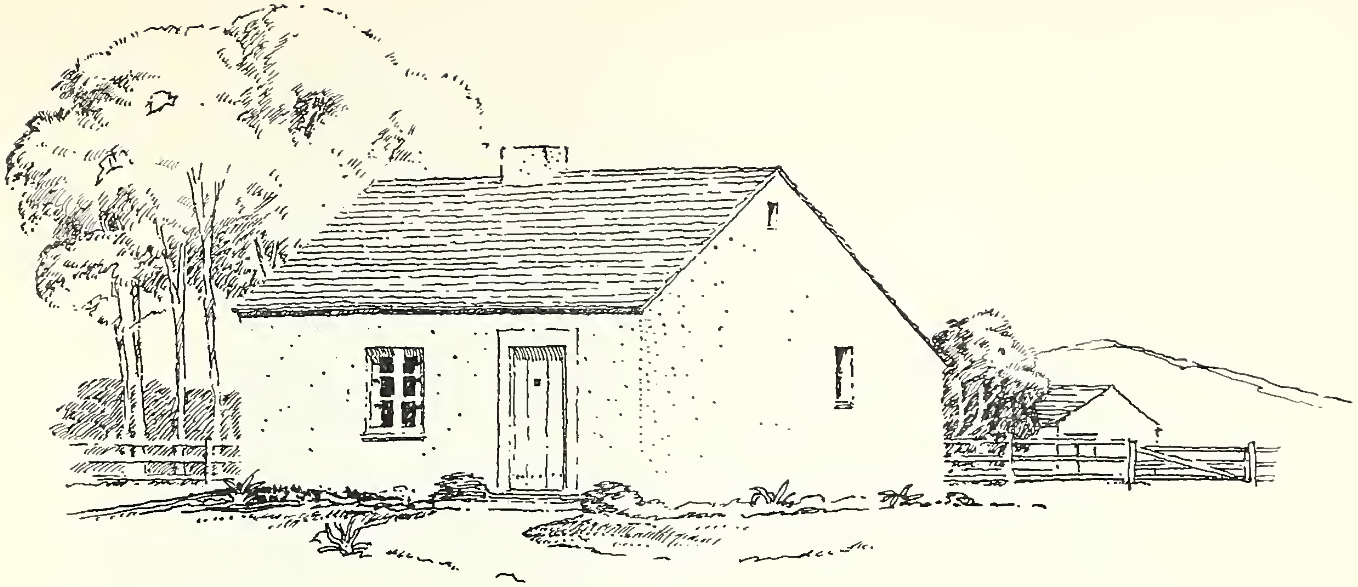
An alternate floor plan is shown on the detailed drawings. The room arrangement shown here is probably preferable from the standpoint of heating. While a wood floor could be used, the concrete floor is considered cheaper, easy to place, and very suitable if this temporary structure should be turned into a bunkhouse, shop, machine-storage, or utility building.

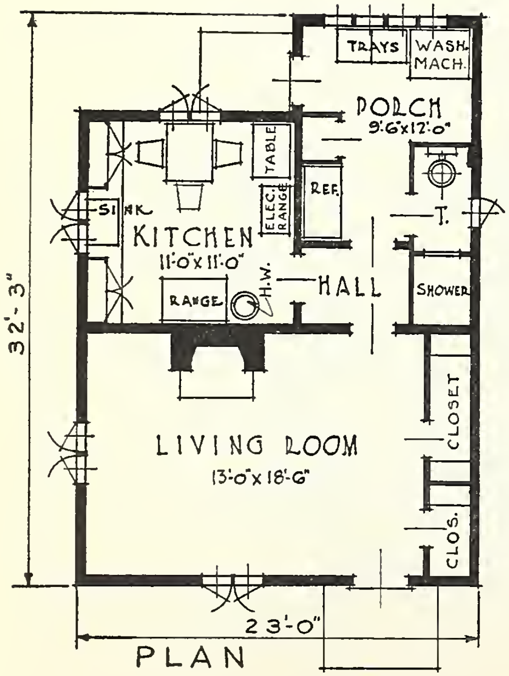
The building may be whitewashed or painted a light color. For mild localities.

Drawing No. 710–6505 (5 sheets)



PLAN





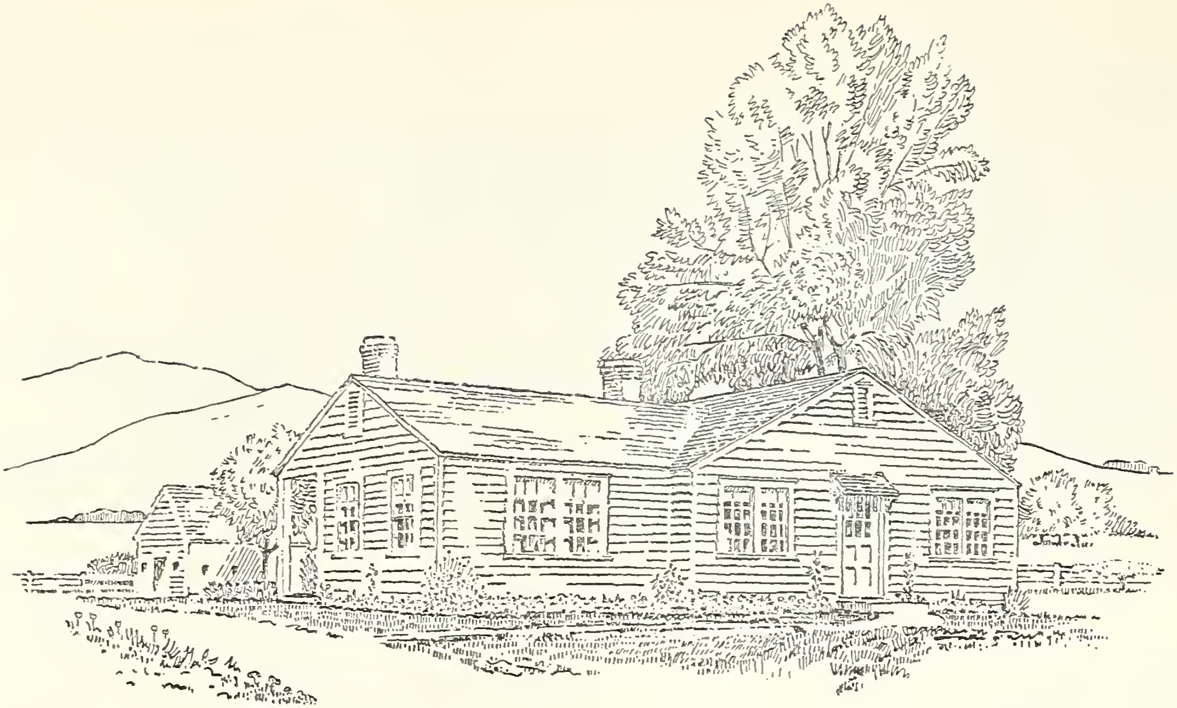
PLAN

3- TO 5-ROOM FARMHOUSE

This adobe farmhouse is in the moderate-price range. Cost is kept low by holding the room sizes to practical working spaces and by simplicity in design rather than by cheap construction. The drawings provide details for building the house of adobe brick, wood frame, stone, or other masonry units. A choice is also offered between a concrete floor laid over a waterproofed fill and a conventional wood floor; wood stud partitions plastered both sides, and adobe brick partitions; and a chimney and fireplace of adobe or brick.

The house may be enlarged with the minimum of changes to provide either one or two bedrooms. For mild localities.

Drawing No. 710–6511 (6 sheets)

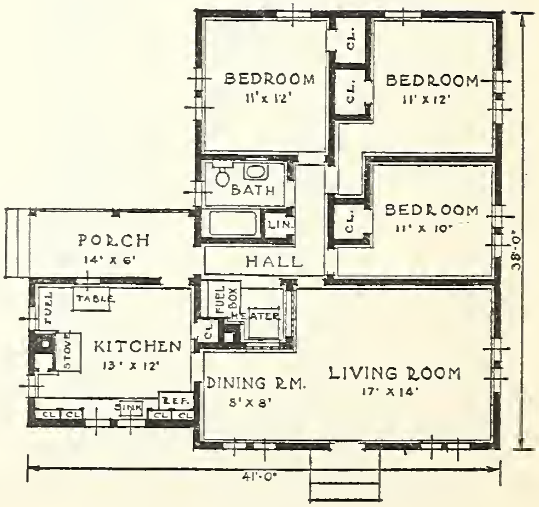


5-ROOM FARMHOUSE

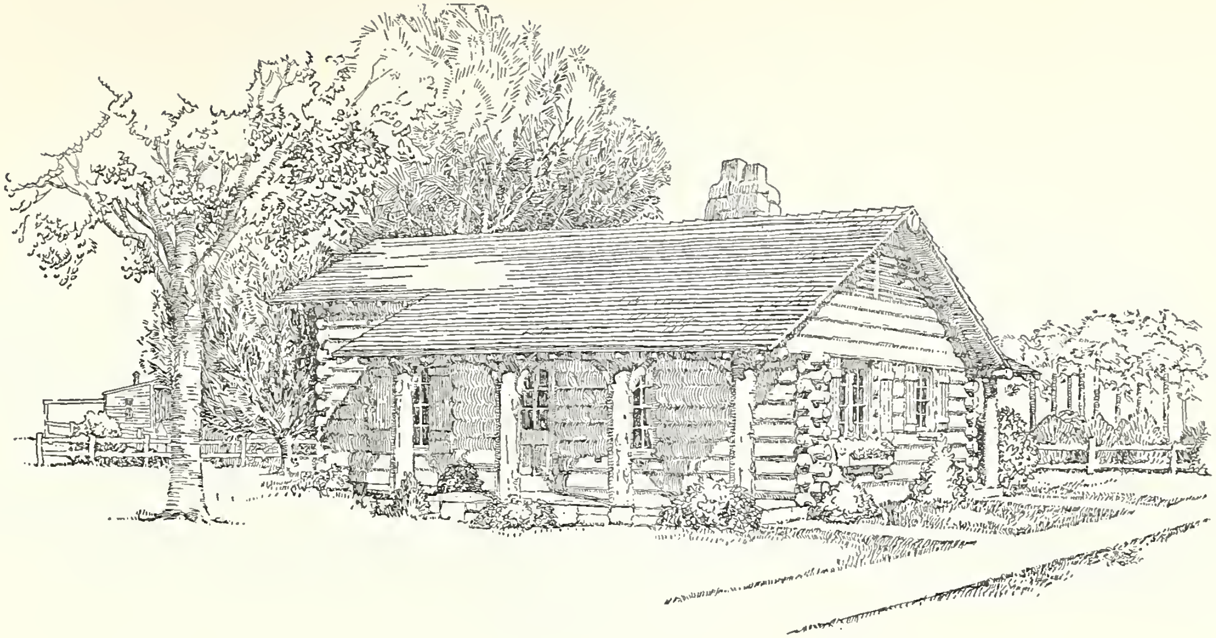
There are several novel features about this small dwelling. A heater room on the main floor near the rear entrance and the kitchen makes a cellar unnecessary. Windows in the three walls of the kitchen give ample light and cross ventilation and provide a good view of the farmstead and highway.

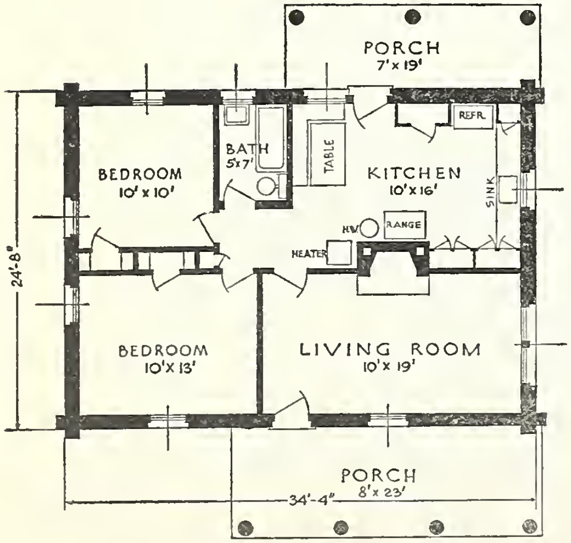
In the first stage of construction the two rear bedrooms may be omitted or a screened and glazed sleeping porch, with outside entrance, could be built instead. There might be a porch off the living room. For mild or cold localities.

Drawing No. 710–6518 (1 sheet)



PLAN





PLAN

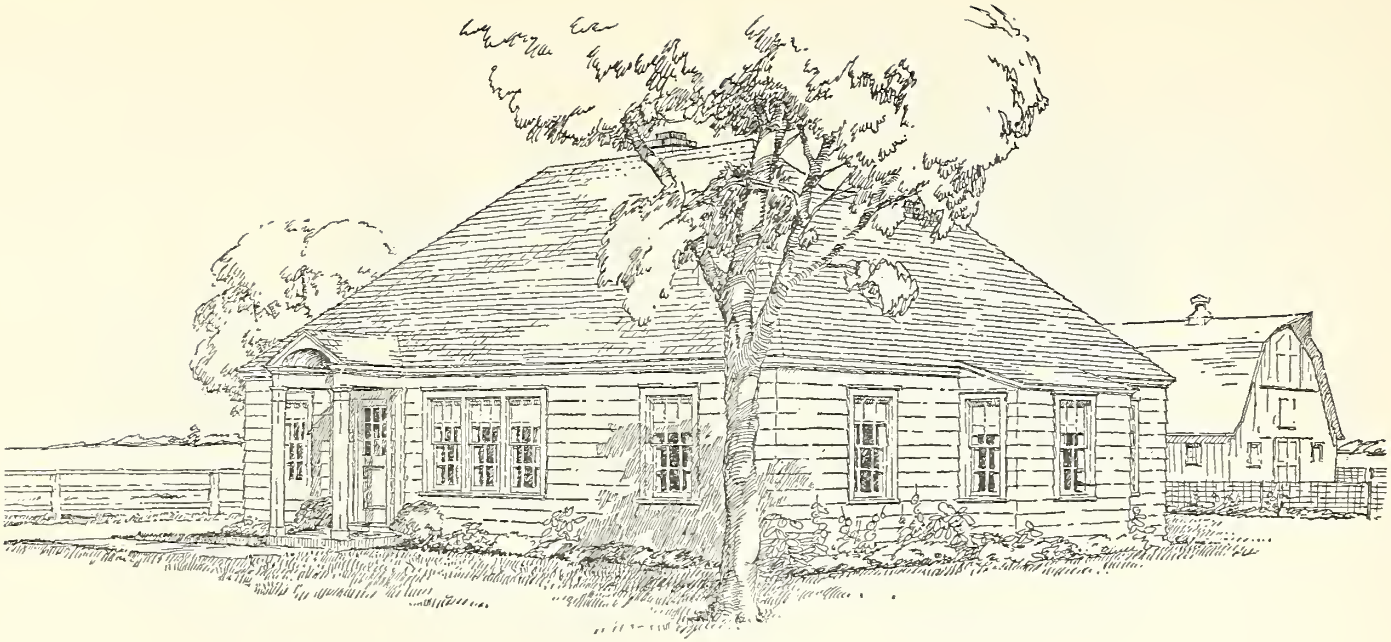
4-ROOM FARMHOUSE

A log cabin is as pleasing in a wooded setting as an adobe house in its natural background. Log construction blends in with trees more intimately than boards, bricks, or stucco.

The same plan might well be used for adobe construction in locations where it is practical as illustrated in drawing No. 5486.

A number of the houses shown in this book could be built of logs with little change in detail. For mild or cold localities.

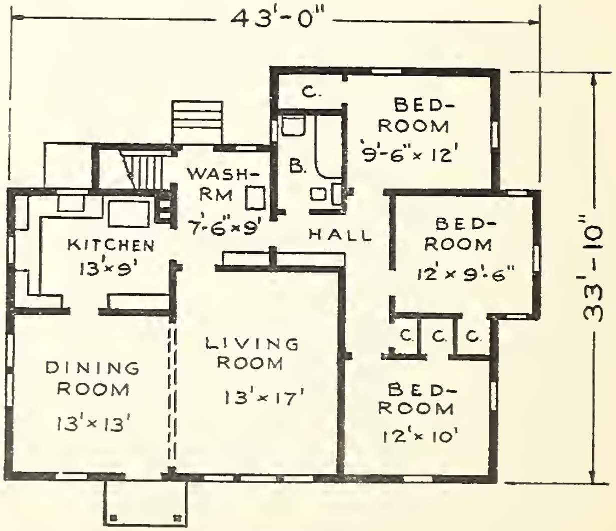
Drawing No. 710–6526 (3 sheets)



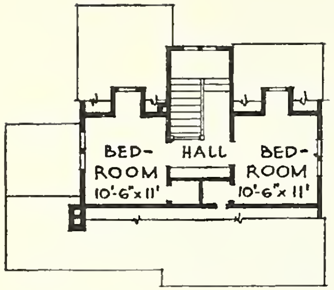
7-ROOM FARMHOUSE

This compact well-arranged one-story house has three bedrooms which are closed off from the living space. The rear entry is large enough to serve as a laundry and washroom and constitutes a back way from the kitchen to the bedrooms without passing through the living room. A door from the living room to the bedroom hall could be provided if desired. The kitchen, with cross ventilation and ample cupboard and counter space, is a pleasant place to work. A basement permits the installation of a central heating plant. For mild or cold localities.

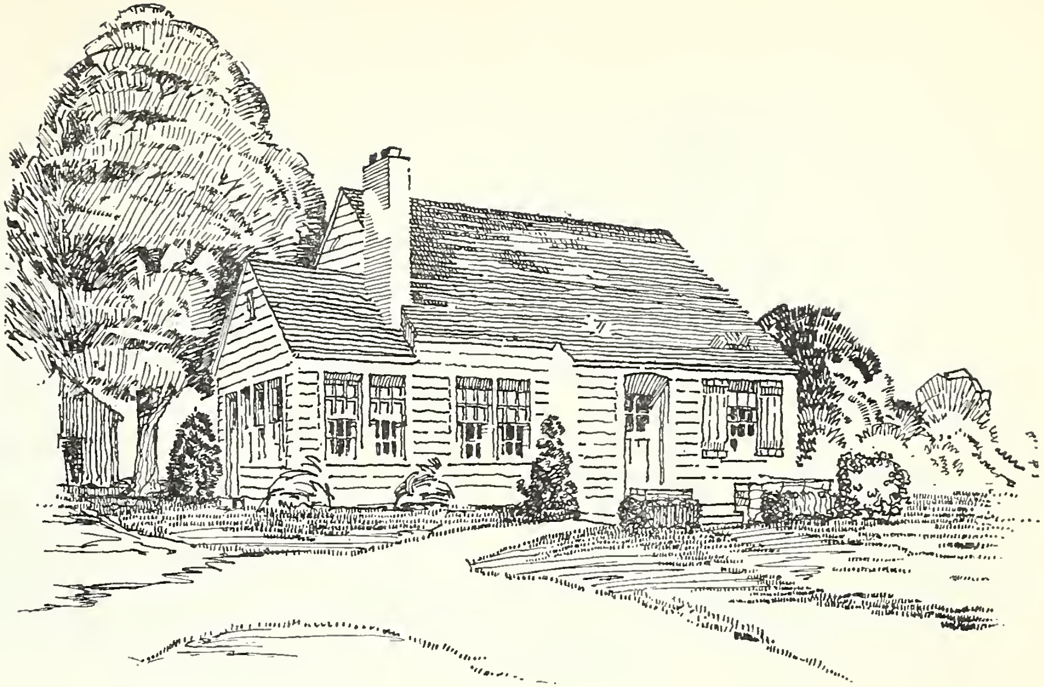
Drawing No. 710–6533 (4 sheets)

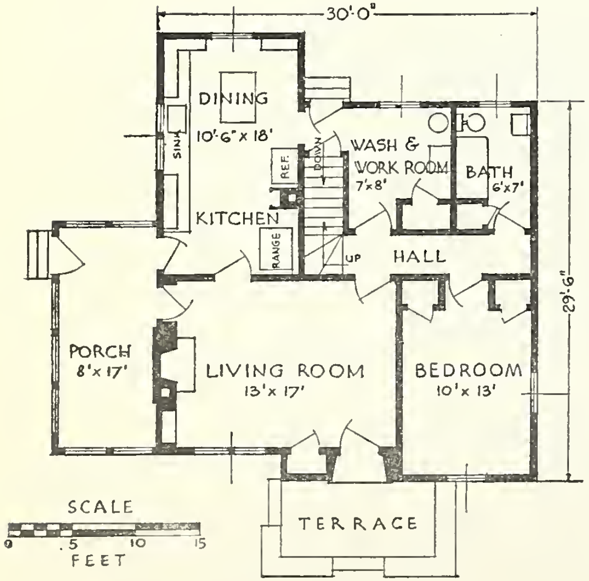


PLAN



SECOND-FLOOR PLAN





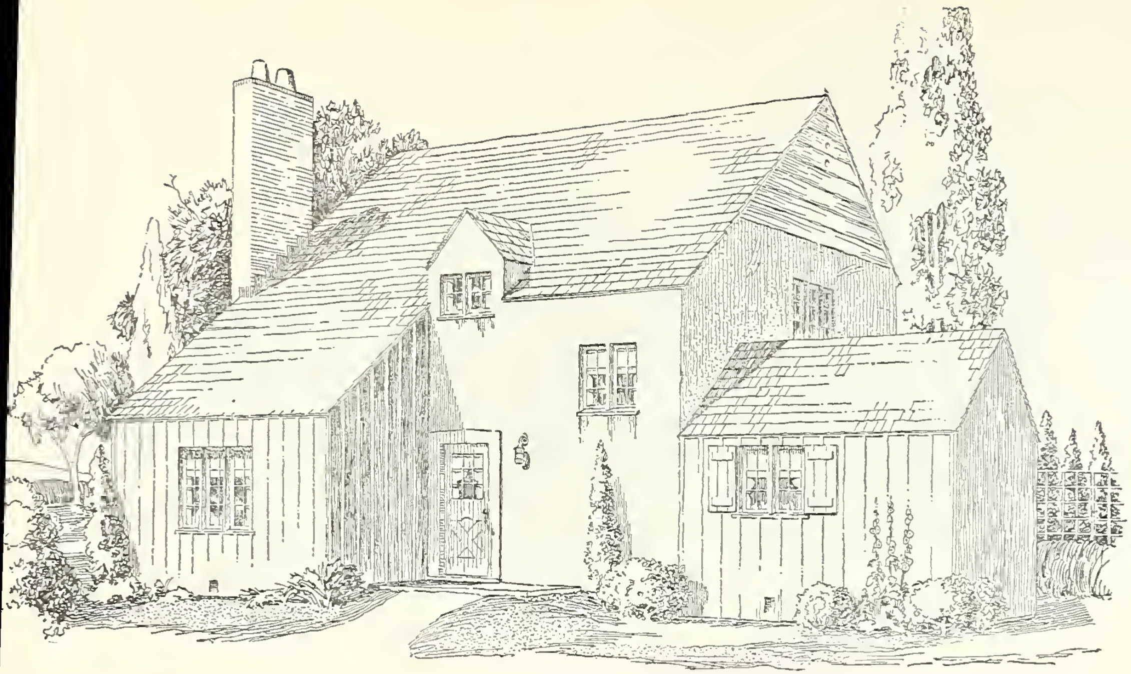
FIRST-FLOOR PLAN

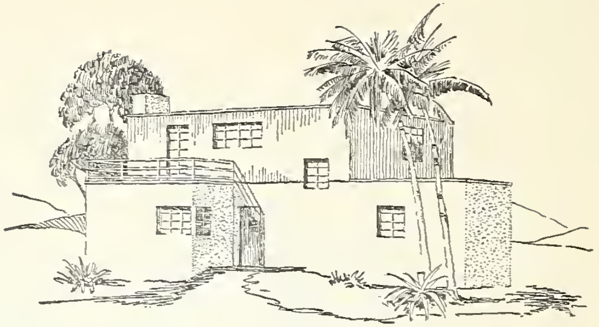
6-ROOM FARMHOUSE

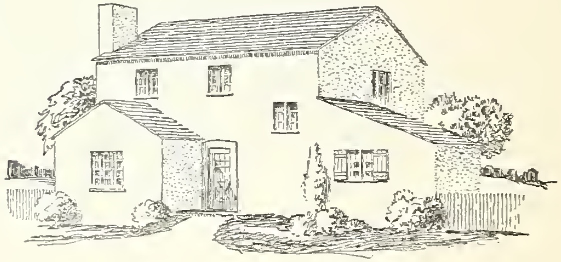
This is a larger house than its exterior appearance indicates. The roof, sweeping down snug over the window of the first-floor bedroom, helps to keep this two-story house from appearing too tall and makes it a more harmonious unit in the farmstead scheme.

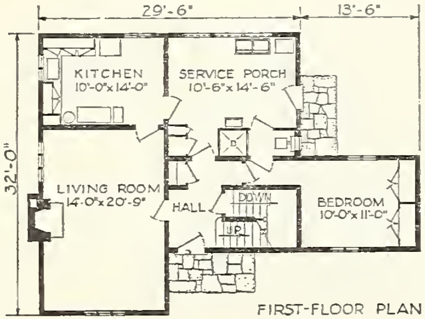
The arrangement of rear entrance, workroom, and hall is especially convenient as it permits the men to prepare for meals without interfering with work in the kitchen or tracking through the living room. The second-floor bedrooms will be more comfortable if the roof is insulated. These rooms could be left unfinished to lower first cost. Another bedroom may be added downstairs next to the bathroom. For mild or cold localities.

Drawing No. 710–6537 (3 sheets)

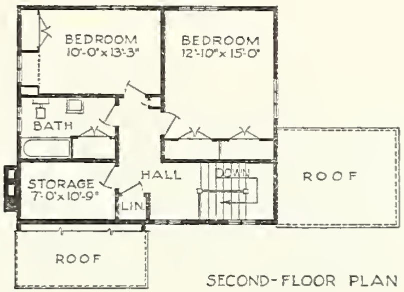








FIRST-FLOOR PLAN



SECOND-FLOOR PLAN

6-ROOM FARMHOUSE

This farmhouse falls in the moderately high cost class and may be roofed in a number of ways, with slight alterations in the arrangement of the second floor. The appearance is, of course, greatly altered; but in each case is pleasing. With the modernistic flat roof any waste space, caused by the sloping roofs in the other designs, is eliminated. The storage space on the second floor then may have more headroom and a larger window and becomes suitable for a child's bedroom and the flat-deck porch roof will serve as a sleeping porch.

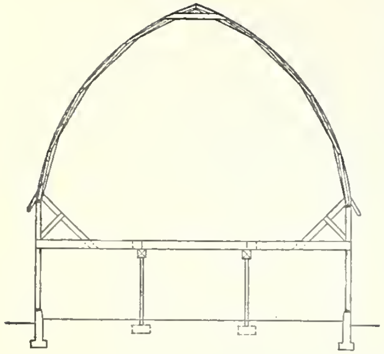
Since the arrangement of the entrance is rather unusual, the location of the driveway and the path to the barn should be given careful study before deciding upon the site and placing of the house. For mild localities.

Drawing No. 710–6538 (6 sheets)

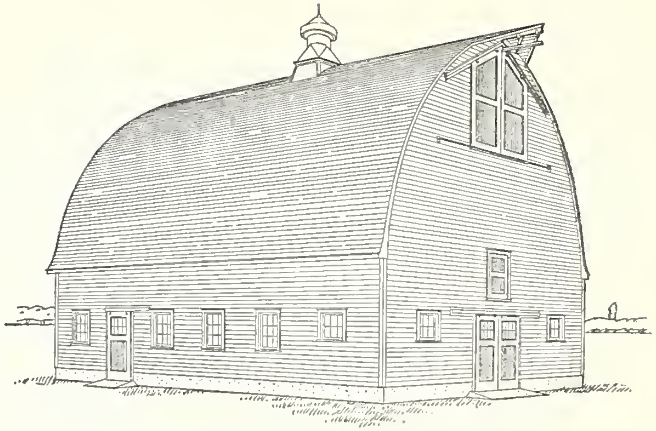
Details for screening farmhouses. (Not illustrated.) Drawing No. 7101–5449 (1 sheet)

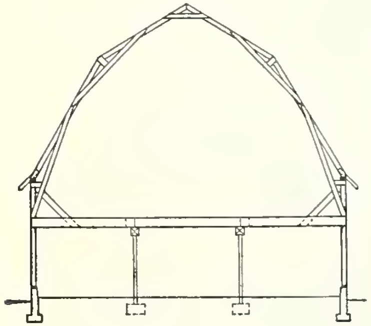
Details for building full foundations when pier foundations are shown on farmhouse plans. (Not illustrated.) Drawing No. 7101–5450 (2 sheets)

TYPES OF BARNS

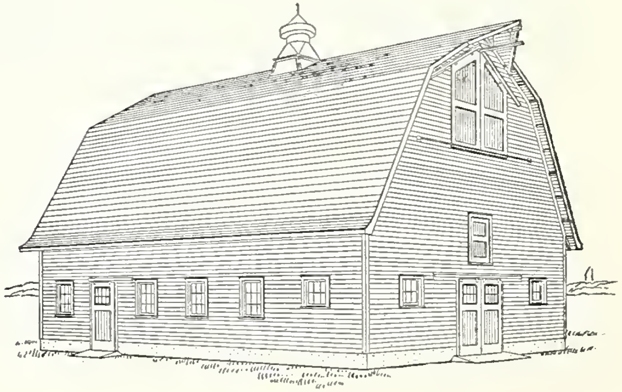


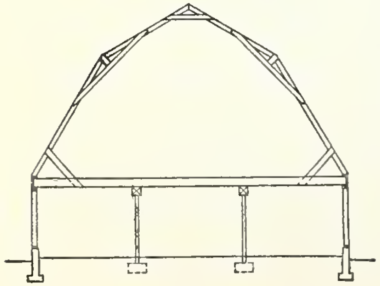
Type A, gothic roof.—The gothic-roof barn has graceful curves and the practical advantage of permitting large mow space without the use of posts. The plans provide for rafters sawed from lumber 1 inch thick. Sometimes the rafters are made-up of 1- by 4-inch ribs bent to form a curve; but home-made ribs of this type usually sag. Hay capacity is about 1¼ tons per foot of length.



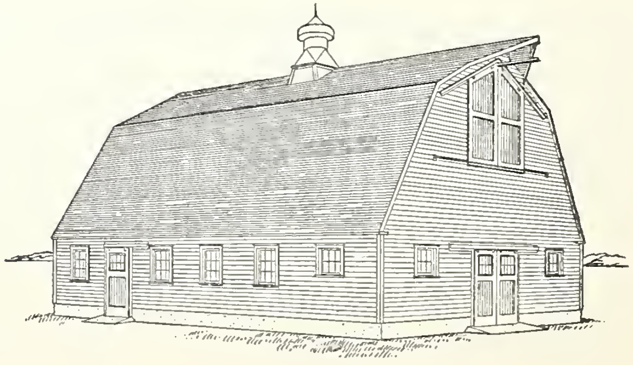


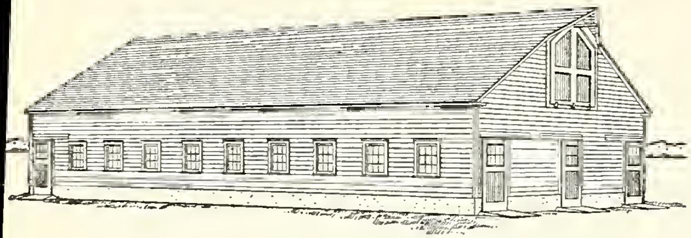
Type B, gambrel roof, two stories.—The gambrel roof sometimes is erroneously called a hip roof. By extending the wall studs above the mow floor and setting the braced rafters on a plate, as shown in the section, a mow of large capacity may be built without the use of posts. The braced rafters are of 2-inch plank and form a stiff frame. Hay capacity about 1 ton per foot of length.



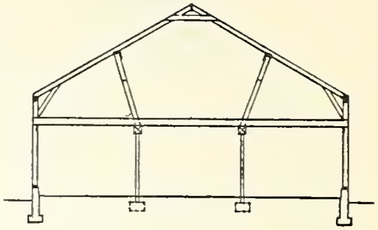


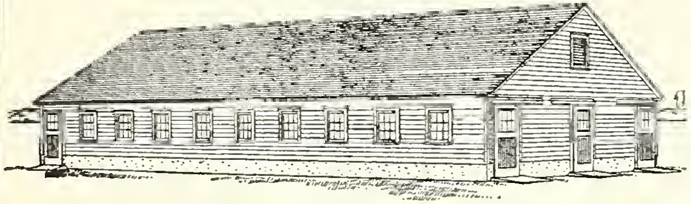
Type C, gambrel roof, one and one-half stories.—This is the same type of framing as shown for type B, except the braced rafters are set on a plate at the mow floor level. This provides a smaller mow, which may be desirable when the hay requirement is not high. Hay capacity is about 0.6 ton per foot of length.



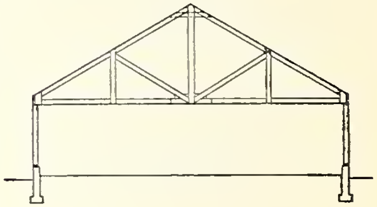


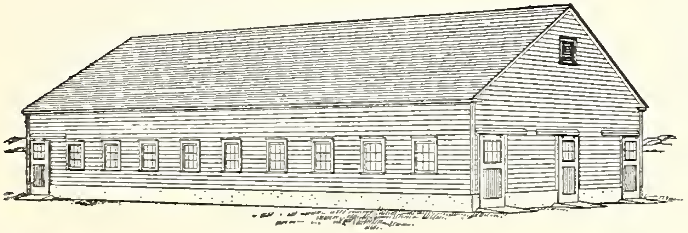
Type D, gable roof, one and one-half stories.—The gable roof of wide barns must be supported by trusses, or posts and purlins. Trusses are seldom used for two-story barns. Where the mows are high, the necessary bracing for post-and-girder construction interferes with mowing hay but for low mows the necessary bracing is not a serious inconvenience. Hay capacity about one-third ton per foot of length.



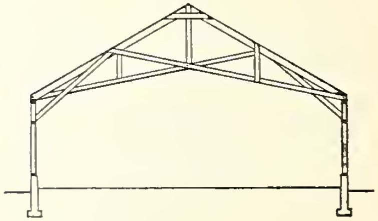


Type E, gable roof, one story.—This lightly framed truss provides a level ceiling. The trusses may be built on the ground and hoisted in place. Posts are not needed inside the barn.





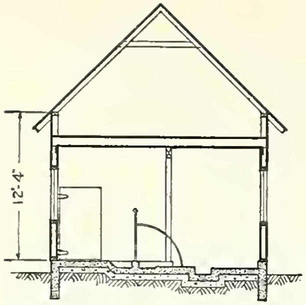
Type F, gable roof, one story.—This scissors truss provides sloping ceilings and a somewhat greater stable height. Posts are not needed inside the barn.



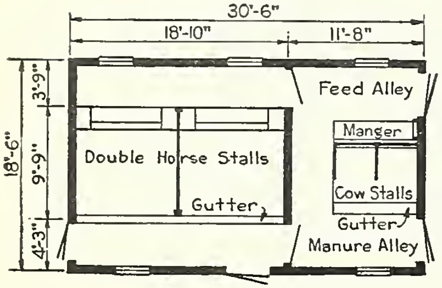
The illustrations on pages 25 and 26 illustrate six methods of framing barns. The barns designated as drawings 5451, 5452, page 28; 5110, page 31; and 5111, 5112, 5113, 5114, 5115, 5116, 5117, 5118, pages 34 to 39, inclusive, may be built six ways, A, B, C, D, E, and F, as shown.

Referring to pages 28, 31, and 34 to 39, inclusive, it will be noted that only the floor plans are shown and that each drawing number is repeated and followed by letters. When ordering a drawing of any of the barns listed above remember the number refers to the floor arrangement and the letter to these types of framing.

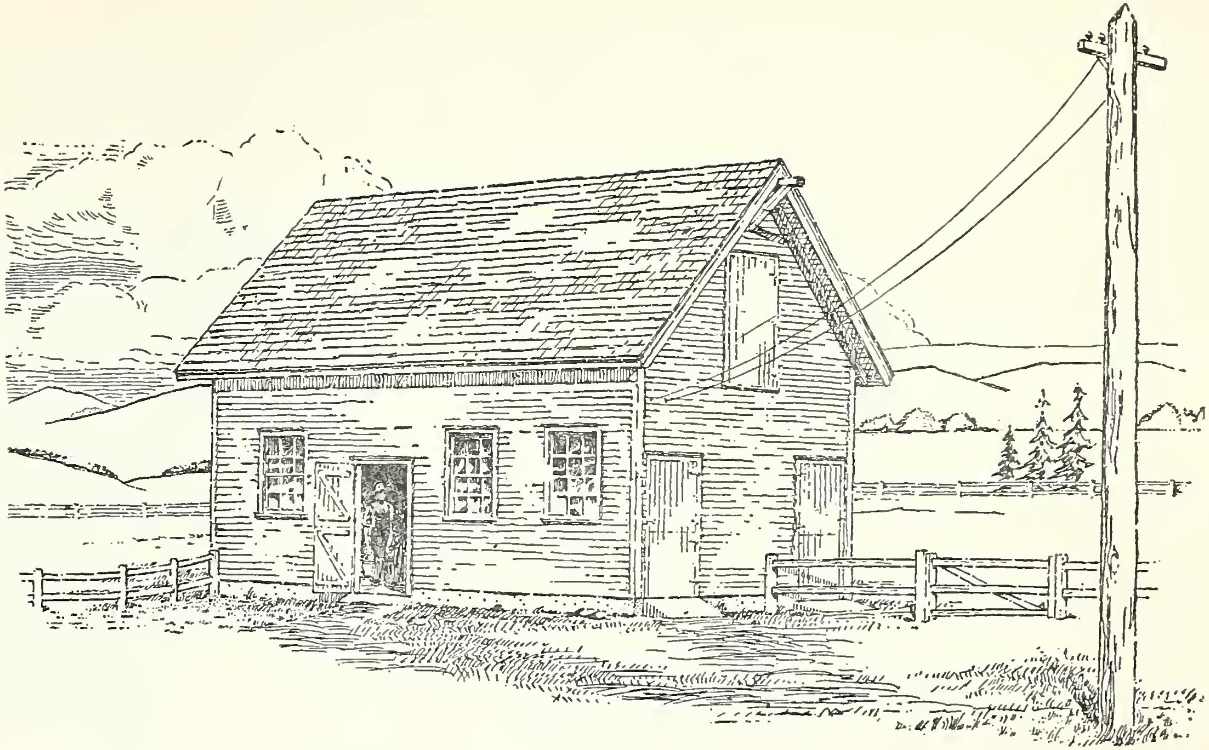
Standard detail sheets which accompany the drawings show various methods of building eaves, different kinds of doors and windows, and other structural features so that a choice can be had between overhanging and clipped eaves, sliding and swinging doors, face-in and face-out stalls, etc.

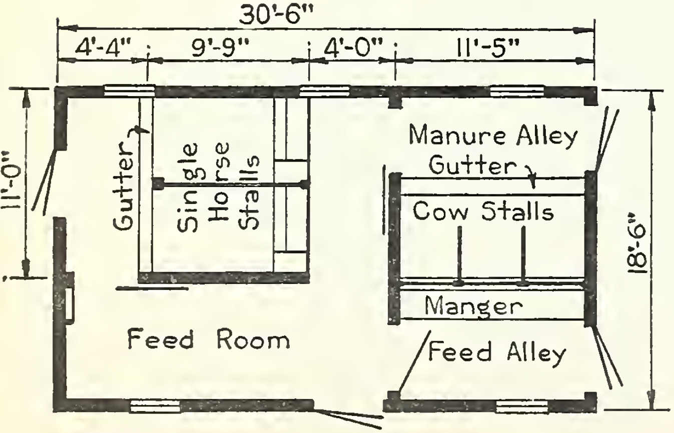


SECTION



ALTERNATE PLAN





PLAN

GENERAL BARN

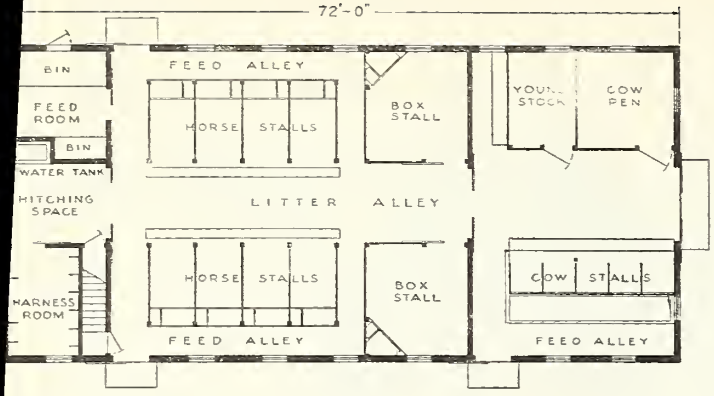
This barn was designed for a small farm where only a few cows and horses are needed. Three floor arrangements are shown on the detailed drawings which may suggest other layouts to meet individual needs. The mow provides for 6 to 7 tons of loose hay. Grain bins in the mow, with chutes to the feed room, are suggested. Floors and foundations are of concrete. The inside of the cow stable should be ceiled.

Drawing No. 721–5021 (1 sheet)

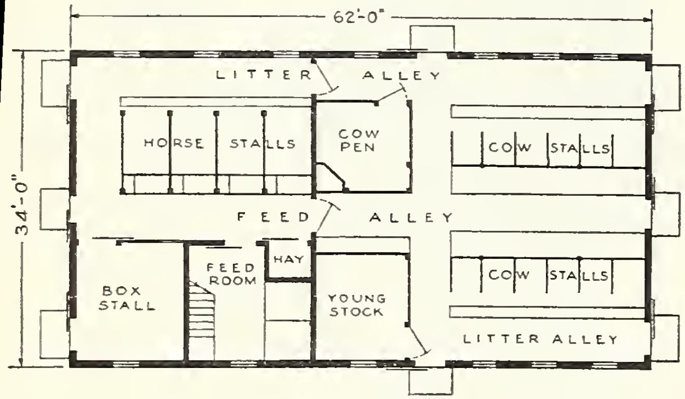
⬅ GENERAL BARN

Two floor plans are suggested for this 34-foot barn. Drawings are available, as indicated below, to provide for framing the barn in one of four ways illustrated on pages 25 and 26. General barns are usually built one and one-half or two stories high to provide hay storage.

Gothic roof (2 stories)	Drawing No. 721–5451A (10 sheets)
Gambrel roof (2 stories)	Drawing No. 721–5451B (10 sheets)
Gambrel roof (1½ stories) . . .	Drawing No. 721–5451C (10 sheets)
Gable roof (1½ stories)	Drawing No. 721–5451D (10 sheets)



PLAN 1

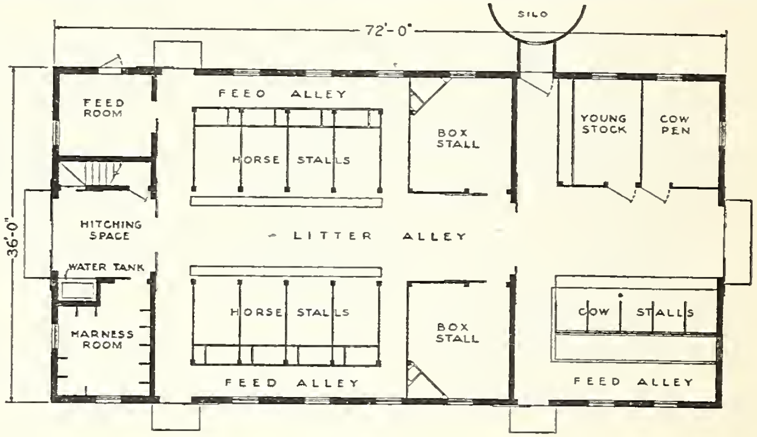


PLAN 2

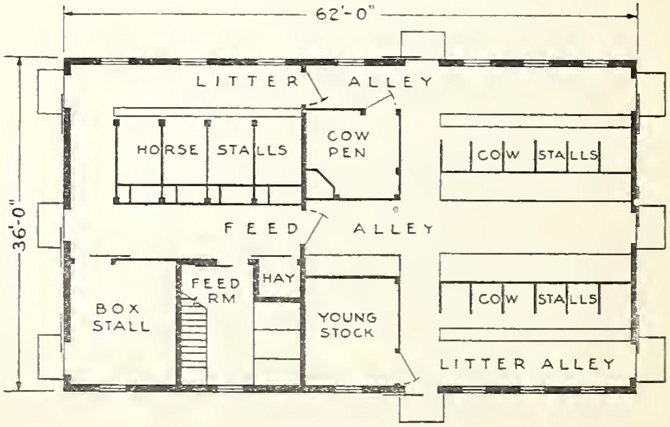
GENERAL BARN ➡

Two floor plans are suggested for this 36-foot barn. Drawings are available, as indicated below, to provide for framing the barn in one of four ways illustrated on pages 25 and 26. General barns are usually built one and one-half or two stories high to provide hay storage.

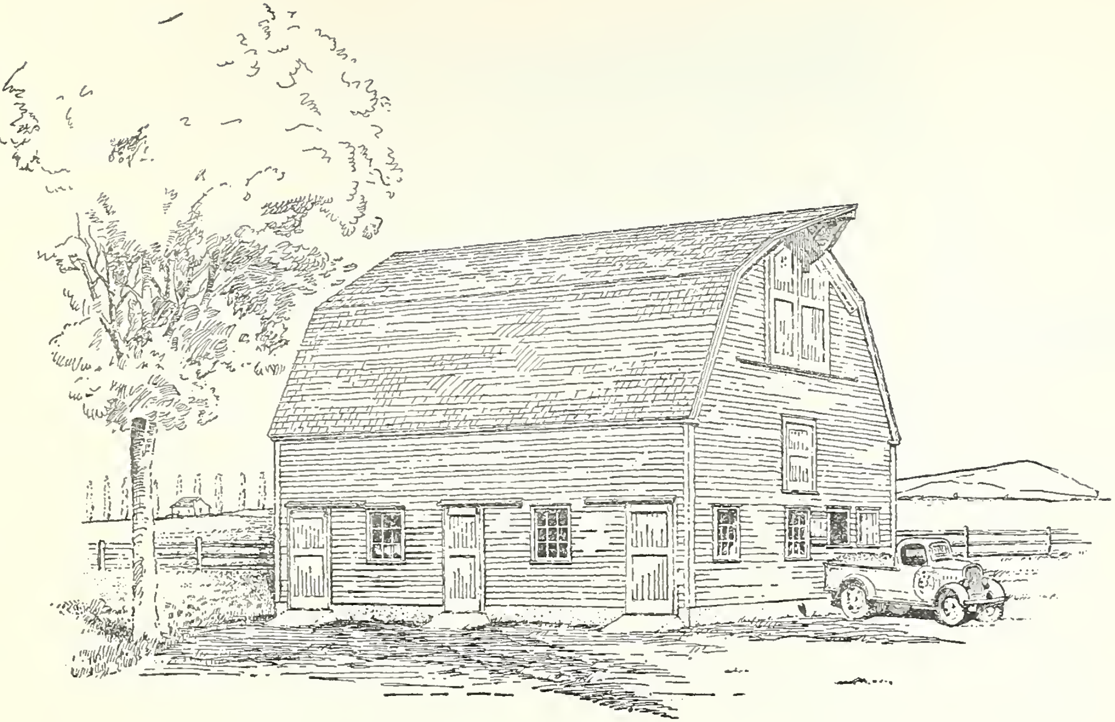
Gothic roof (2 stories)	Drawing No. 721–5452A (10 sheets)
Gambrel roof (2 stories)	Drawing No. 721–5452B (10 sheets)
Gambrel roof (1½ stories) . . .	Drawing No. 721–5452C (10 sheets)
Gable roof (1½ stories)	Drawing No. 721–5452D (10 sheets)

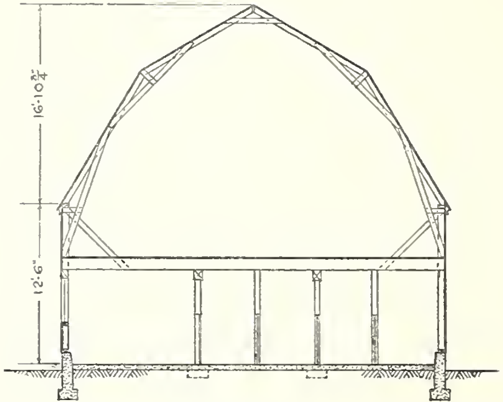


PLAN 1

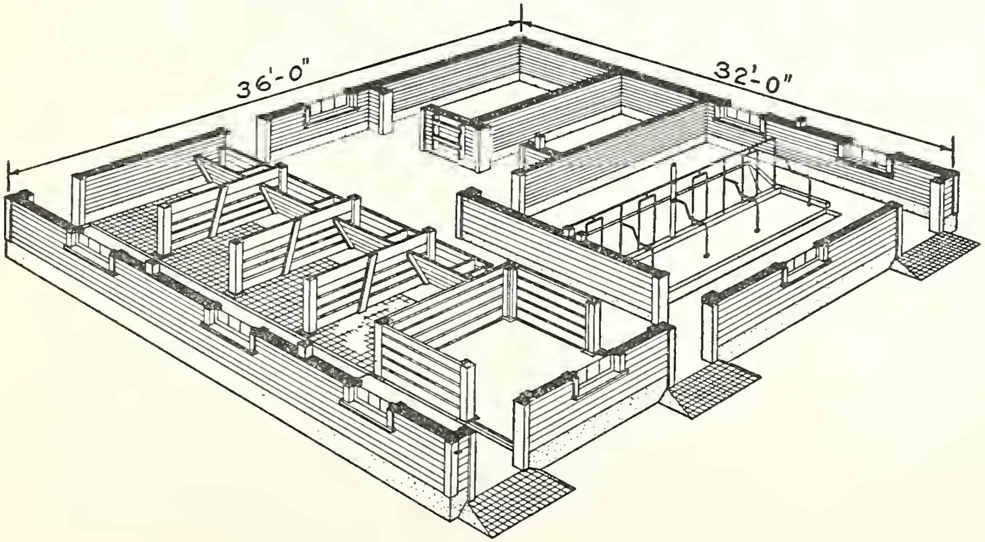


PLAN 2





SECTION

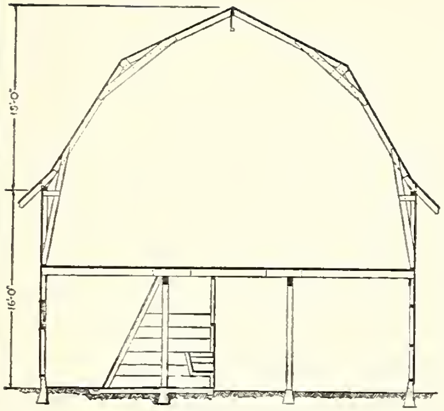


PLAN

GENERAL BARN

In this plan little space is lost in wide alleys. The large mow holds about 32 tons of loose hay. Grain bins could be built in the mow with chutes to the feed room. The grain bin holds about 80 bushels and can be filled from an outside door.

Drawing No. 721–5453 (2 sheets)



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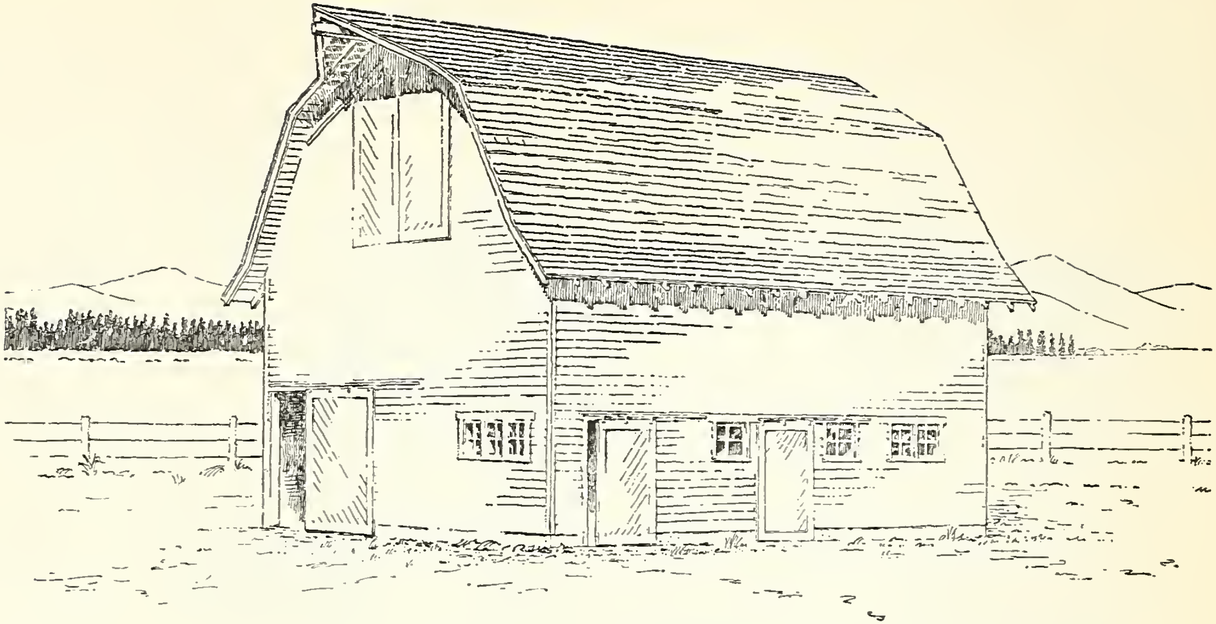
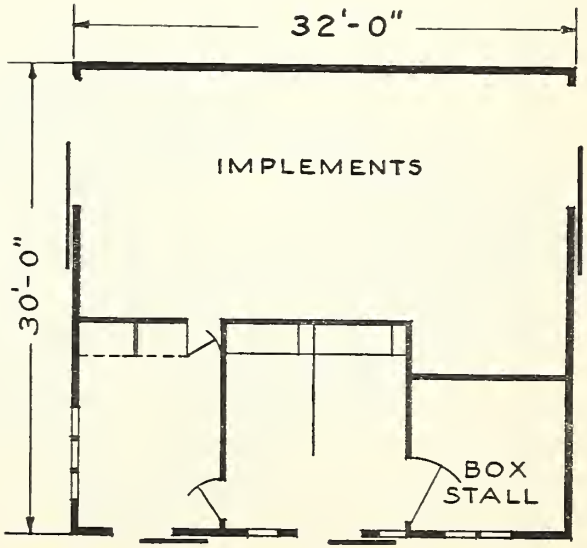


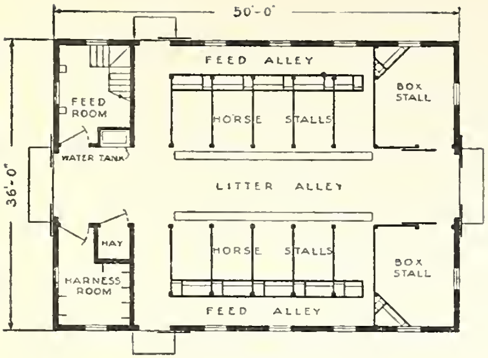
GENERAL BARN

The three lay-outs shown on the available drawings for this barn will suggest other convenient arrangements to meet individual needs. While barn space is generally considered too valuable for storage of implements, its use for this purpose may be warranted on small farms where only a few implements are kept. The mow is large enough for 20 tons of loose hay.

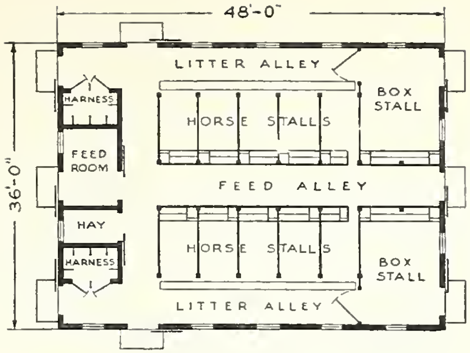
Drawing No. 721–5454 (5 sheets)



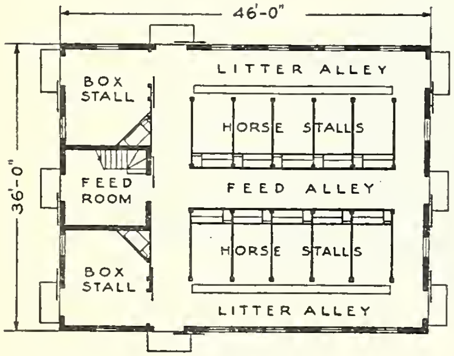
PLAN



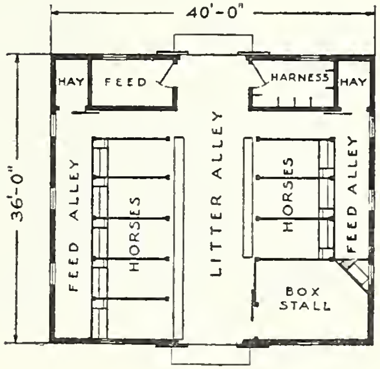
PLAN 1



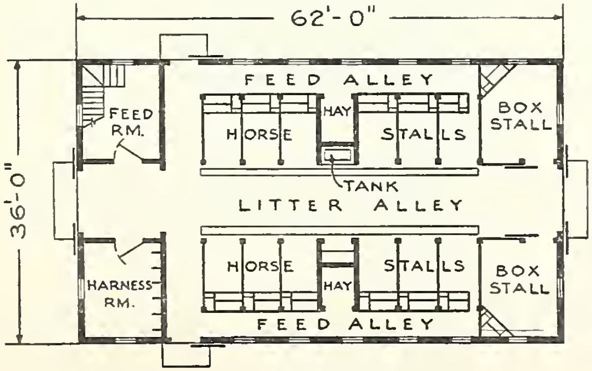
PLAN 2



PLAN 3



PLAN-4

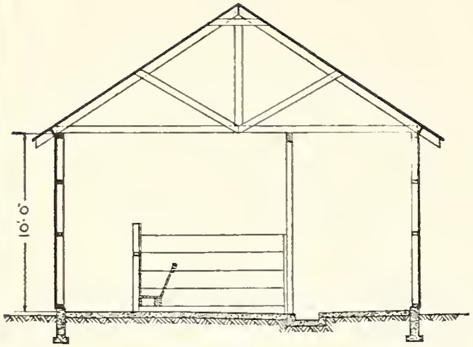


PLAN 5

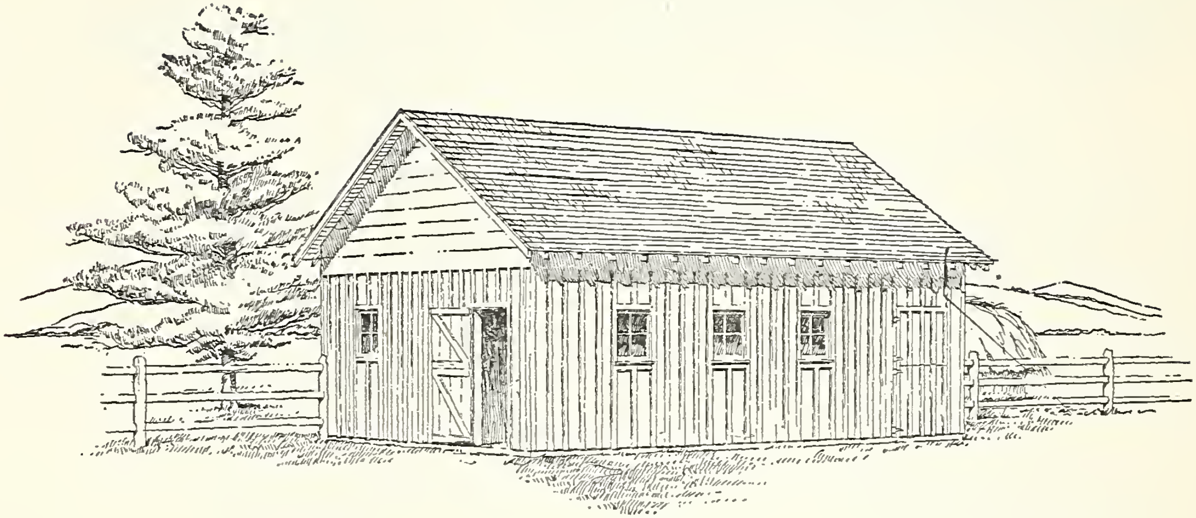
HORSE BARN

Five different lay-outs are shown on the plans for this 36-foot barn. Drawings are available, as indicated below, to provide for framing the barn in one of four ways illustrated on pages 25 and 26. Horse barns are usually built one and one-half or two stories high to provide ample hay storage.

Gothic roof (2 stories)	Drawing No. 722–5110A (8 sheets)
Gambrel roof (2 stories) . .	Drawing No. 722–5110B (8 sheets)
Gambrel roof (1½ stories) .	Drawing No. 722–5110C (8 sheets)
Gable roof (1½ stories) . . .	Drawing No. 722–5110D (8 sheets)



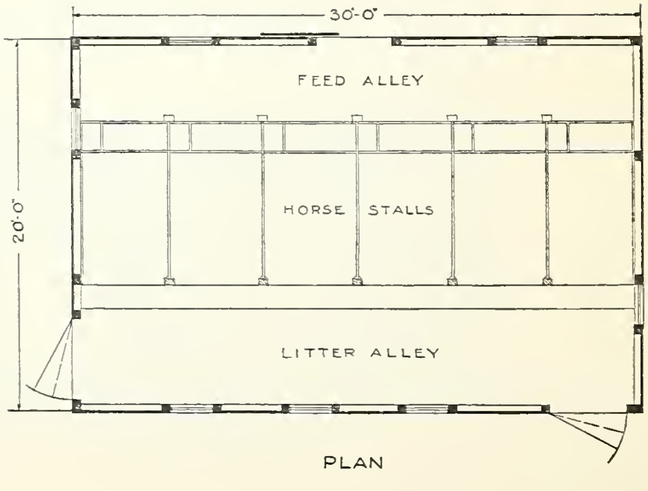
SECTION



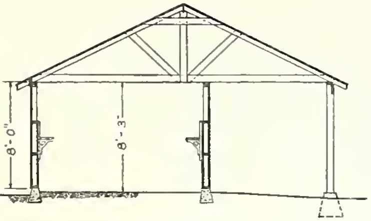
HORSE BARN

For stabling a few horses cheaply. The frame is of post-and-girt construction to provide for vertical boarding and can be built any length. Hay, feed, and bedding must be housed in another building. This is inconvenient in bad weather. If the horse stalls are omitted the building could be used as a utility structure—in which case a cinder or earth floor might serve.

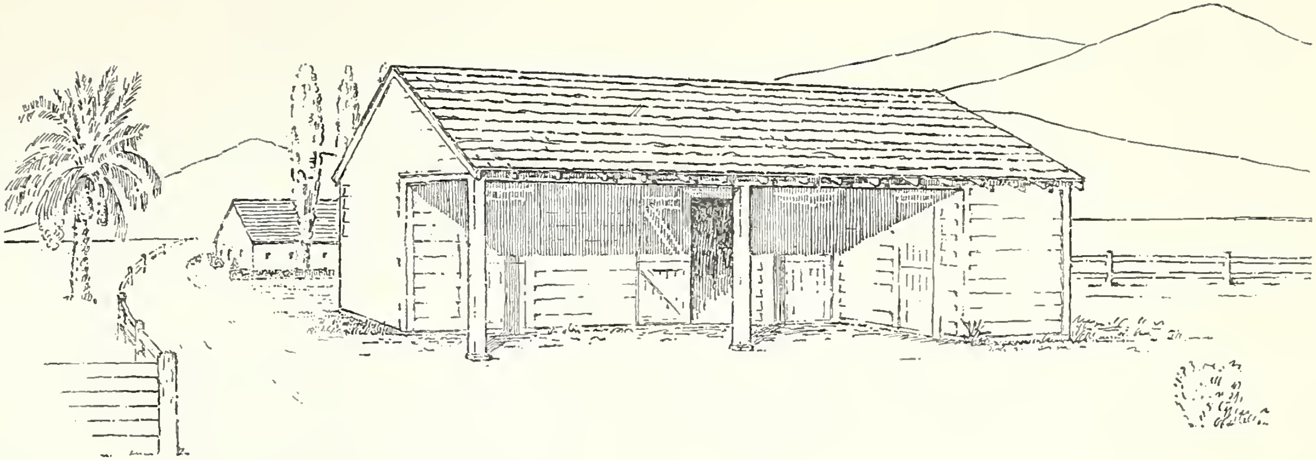
Drawing No. 722–5455 (1 sheet)



PLAN



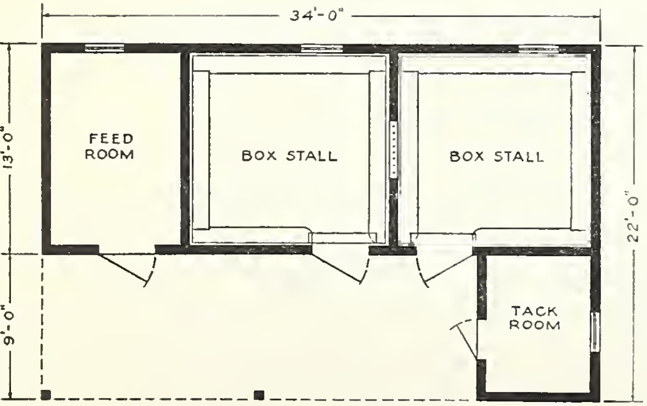
SECTION



RIDING HORSE BARN

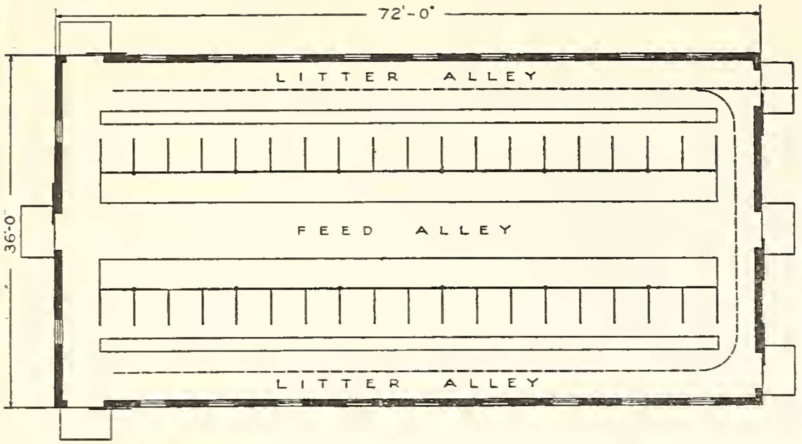
Where one or two riding horses are kept they are sometimes stabled separate from the farm animals. Such a structure might be considered a luxury for housing breeding, hunting, or racing stock and can be located near the house for the convenience of the family or guests and to make special care easier. Box stalls are generally provided for the comfort and safety of valuable animals.

An open grating area is indicated in the partition between the two box stalls as highly bred horses are more inclined to nervousness when isolated. A tailboard around each stall prevents tail rubbing. The tack room is included to protect riding equipment, and the porch provides shelter for saddling.



PLAN

Drawing No. 722-5456 (2 sheets)

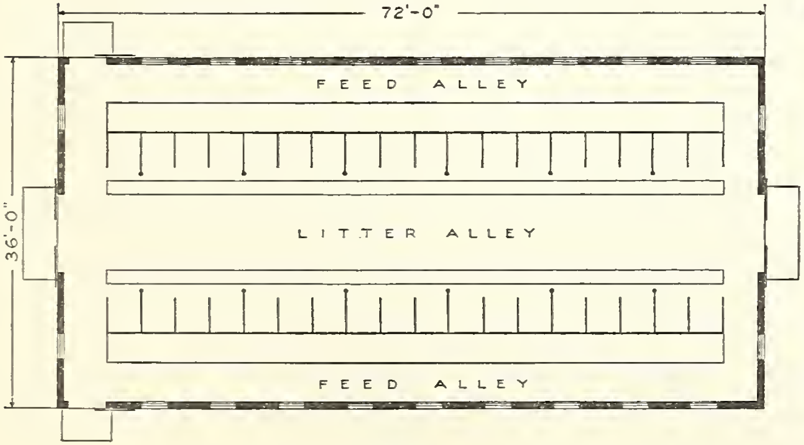


PLAN

DAIRY BARN

This 36-foot barn has face-in stalls. Drawings are available, as indicated below, to provide for framing the barn in any one of the six ways illustrated on pages 25 and 26. Before selecting plans the local dairy inspection agency should be consulted regarding sanitary regulations.

Gothic roof (2 stories)	Drawing No. 723–5111A (8 sheets)
Gambrel roof (2 stories)	Drawing No. 723–5111B (8 sheets)
Gambrel roof (1½ stories)	Drawing No. 723–5111C (8 sheets)
Gable roof (1½ stories)	Drawing No. 723–5111D (8 sheets)
Gable roof (1 story), flat ceiling	Drawing No. 723–5111E (7 sheets)
Gable roof (1 story), sloped ceiling	Drawing No. 723–5111F (7 sheets)

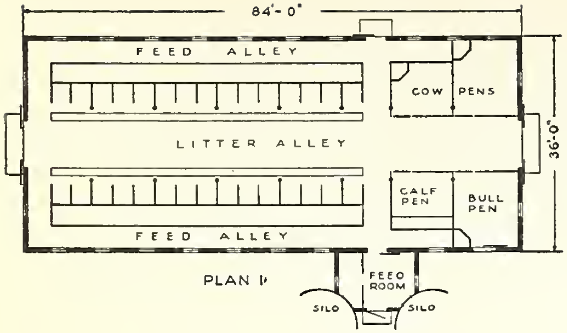


PLAN

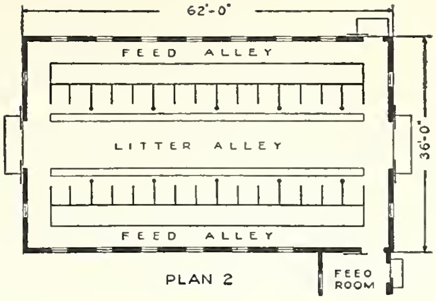
DAIRY BARN

In this 36-foot barn the stalls face out. Drawings are available, as indicated below, to provide for framing the barn in any one of the six ways illustrated on pages 25 and 26. Before selecting plans the local dairy inspection agency should be consulted regarding sanitary regulations.

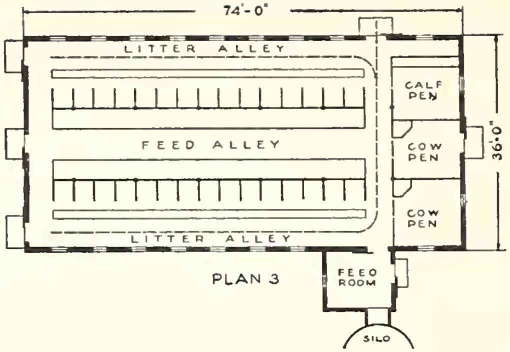
Gothic roof (2 stories)	Drawing No. 723–5112A (8 sheets)
Gambrel roof (2 stories)	Drawing No. 723–5112B (8 sheets)
Gambrel roof (1½ stories)	Drawing No. 723–5112C (8 sheets)
Gable roof (1½ stories)	Drawing No. 723–5112D (8 sheets)
Gable roof (1 story), flat ceiling	Drawing No. 723–5112E (7 sheets)
Gable roof (1 story), sloped ceiling	Drawing No. 723–5112F (7 sheets)



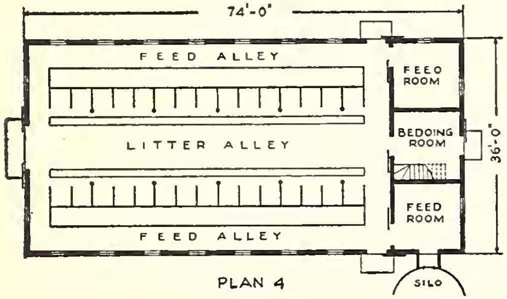
PLAN 1



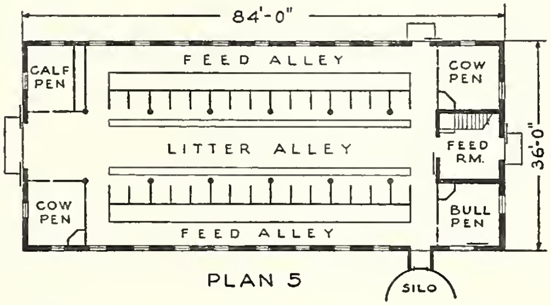
PLAN 2



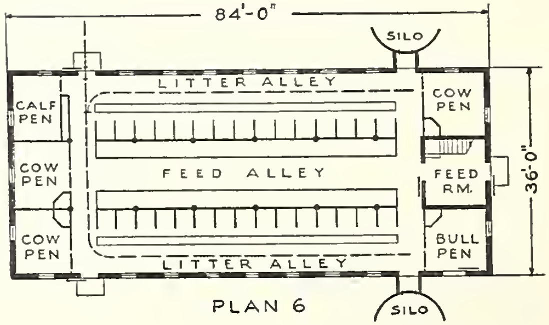
PLAN 3



PLAN 4



PLAN 5

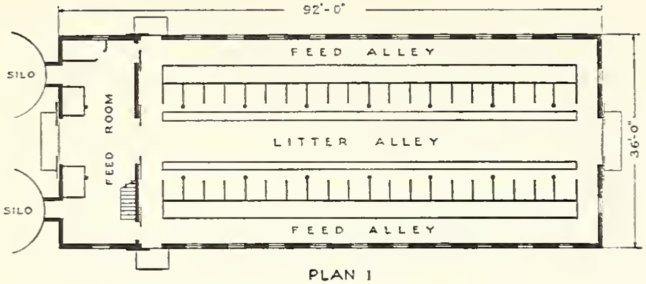


PLAN 6

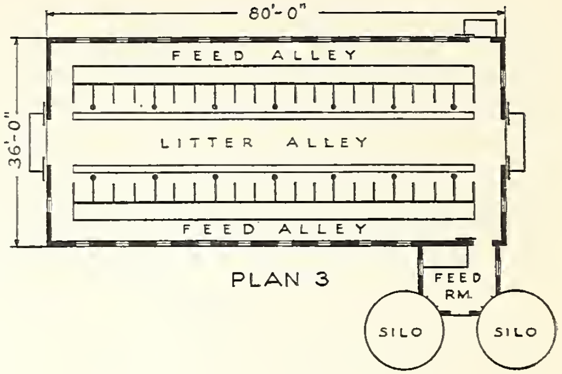
DAIRY BARNS

Six different lay-outs are shown on the plans for this 36-foot barn. Drawings are available, as indicated to the left to provide for framing the barn in any one of the six ways illustrated on pages 25 and 26. Before selecting plans the local dairy inspection agency should be consulted regarding sanitary regulations.

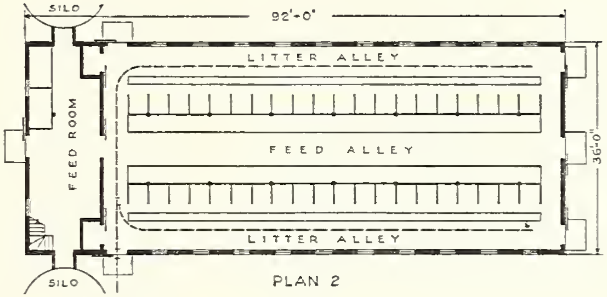
Gothic roof (2 stories)	Drawing No. 723–5113A (9 sheets)
Gambrel roof (2 stories)	Drawing No. 723–5113B (9 sheets)
Gambrel roof (1½ stories)	Drawing No. 723–5113C (9 sheets)
Gable roof (1½ stories)	Drawing No. 723–5113D (9 sheets)
Gable roof (1 story) flat ceiling	Drawing No. 723–5113E (8 sheets)
Gable roof (1 story) sloped ceiling	Drawing No. 723–5113F (8 sheets)



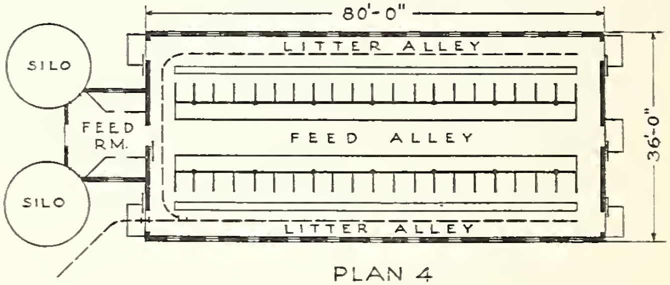
PLAN 1



PLAN 3



PLAN 2

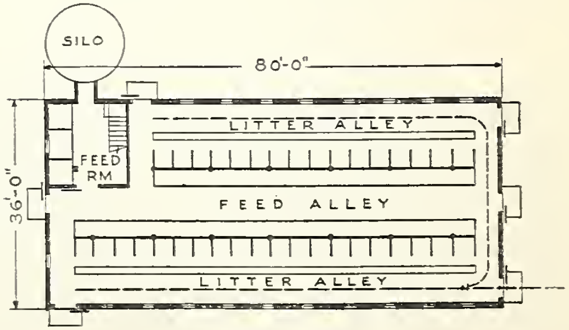


PLAN 4

DAIRY BARN

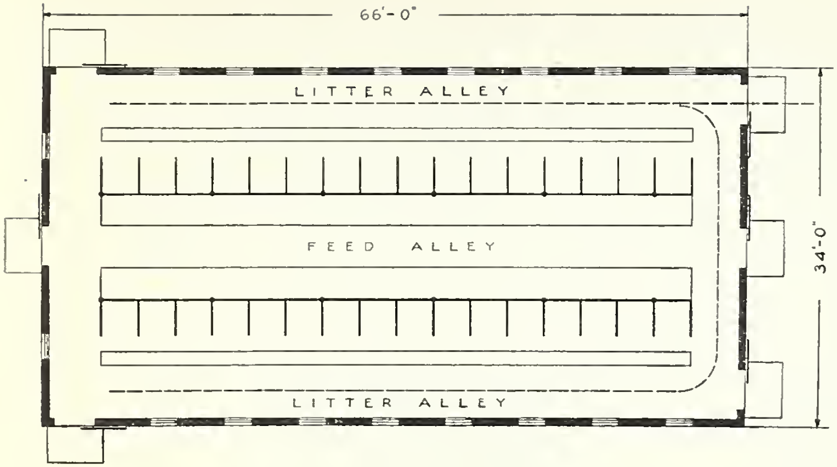
Five lay-outs are shown on the plans for this 36-foot barn. Drawings are available, as indicated below, to provide for framing the barn in any one of the six ways illustrated on pages 25 and 26. Before selecting plans the local dairy inspection agency should be consulted regarding sanitary regulations.

Gothic roof (2 stories)	Drawing No. 723–5114A (9 sheets)
Gambrel roof (2 stories)	Drawing No. 723–5114B (9 sheets)
Gambrel roof (1½ stories)	Drawing No. 723–5114C (9 sheets)
Gable roof (1½ stories)	Drawing No. 723–5114D (9 sheets)
Gable roof (1 story) flat ceiling	Drawing No. 723–5114E (8 sheets)
Gable roof (1 story) sloped ceiling	Drawing No. 723–5114F (8 sheets)



PLAN 5

DAIRY BARN

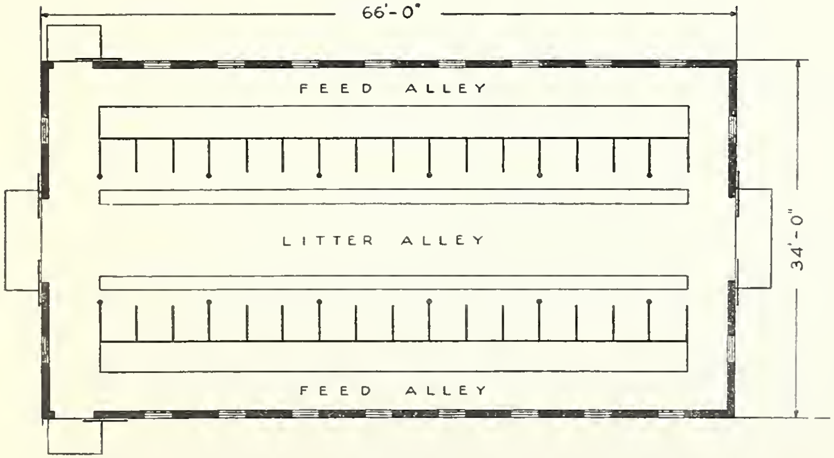


PLAN

This 34-foot barn has face-in stalls. Drawings are available, as indicated below, to provide for framing the barn in any one of the six ways illustrated on pages 25 and 26. Before selecting plans the local dairy inspection agency should be consulted regarding sanitary regulations.

Gothic roof (2 stories)	Drawing No. 723–5115A (8 sheets)
Gambrel roof (2 stories)	Drawing No. 723–5115B (8 sheets)
Gambrel roof (1½ stories)	Drawing No. 723–5115C (8 sheets)
Gable roof (1½ stories)	Drawing No. 723–5115D (8 sheets)
Gable roof (1 story), flat ceiling	Drawing No. 723–5115E (7 sheets)
Gable roof (1 story), sloped ceiling	Drawing No. 723–5115F (7 sheets)

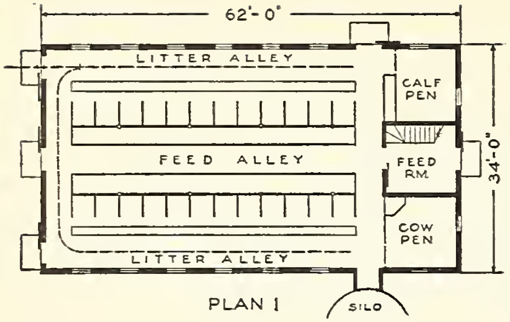
DAIRY BARN



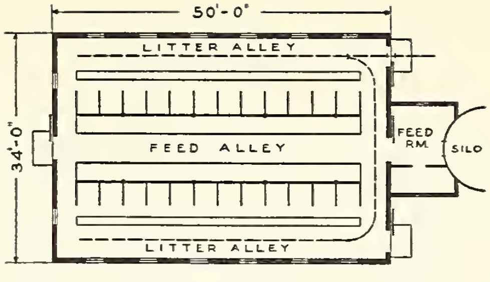
PLAN

In this 34-foot barn the cows are to face out. Drawings are available, as indicated below, to provide for framing the barn in any one of six ways illustrated on pages 25 and 26. Before selecting plans the local dairy inspection agency should be consulted regarding sanitary regulations.

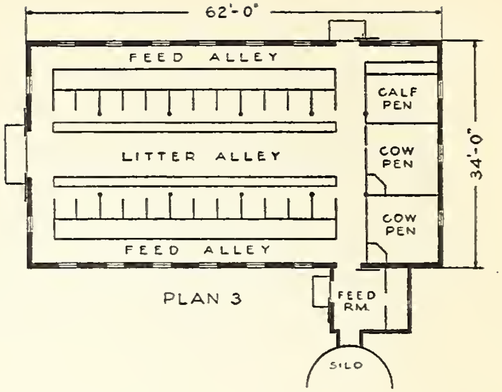
Gothic roof (2 stories)	Drawing No. 723–5116A (8 sheets)
Gambrel roof (2 stories)	Drawing No. 723–5116B (8 sheets)
Gambrel roof (1½ stories)	Drawing No. 723–5116C (8 sheets)
Gable roof (1½ stories)	Drawing No. 723–5116D (8 sheets)
Gable roof (1 story), flat ceiling	Drawing No. 723–5116E (7 sheets)
Gable roof (1 story), sloped ceiling	Drawing No. 723–5116F (7 sheets)



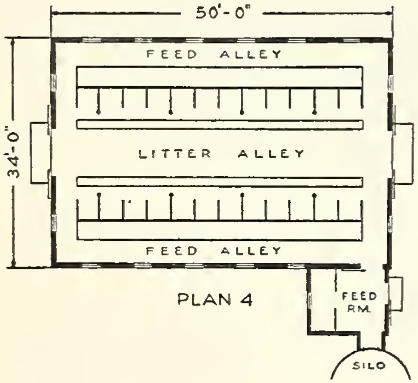
PLAN 1



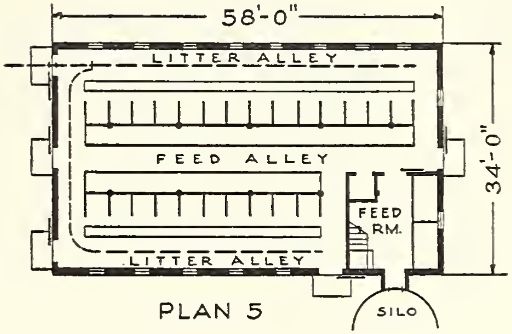
PLAN 2



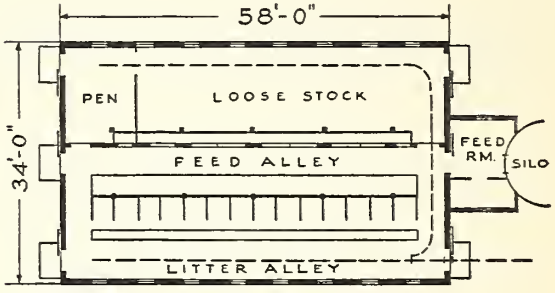
PLAN 3



PLAN 4



PLAN 5

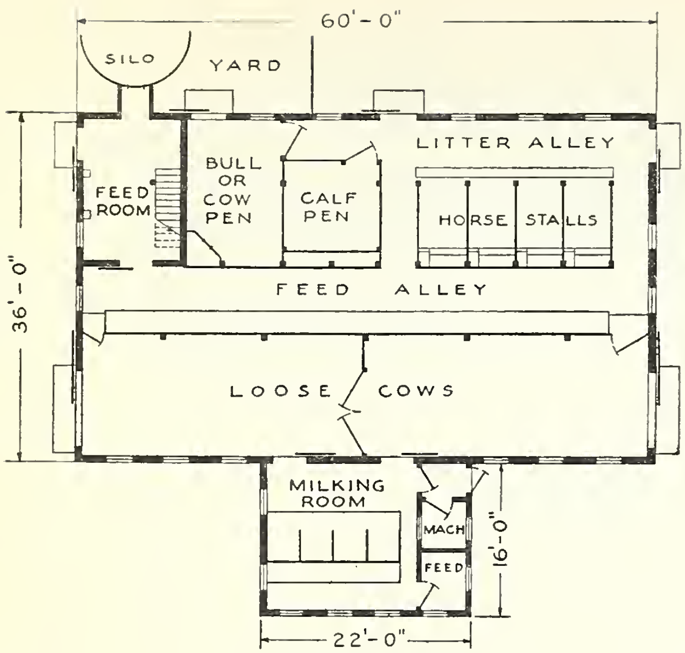


PLAN 6

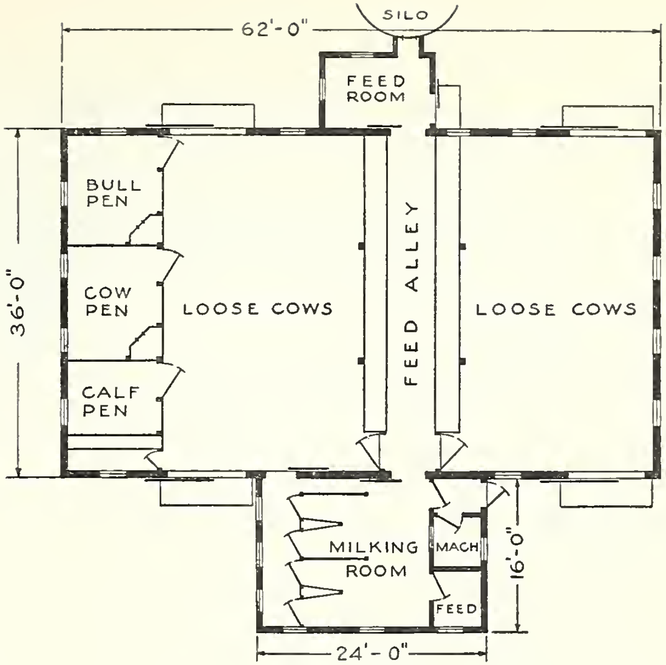
DAIRY BARN

Six different floor lay-outs are shown on the plans for this 34-foot barn. Drawings are available, as indicated to the right, to provide for framing the barn in any one of the six ways illustrated on pages 25 and 26. Before selecting plans the local dairy inspection agency should be consulted regarding sanitary regulations.

Gothic roof (2 stories)	Drawing No. 723–5117A	(9 sheets)
Gambrel roof (2 stories)	Drawing No. 723–5117B	(9 sheets)
Gambrel roof (1½ stories)	Drawing No. 723–5117C	(9 sheets)
Gable roof (1½ stories)	Drawing No. 723–5117D	(9 sheets)
Gable roof (1 story), flat ceiling	Drawing No. 723–5117E	(8 sheets)
Gable roof (1 story), sloped ceiling	Drawing No. 723–5117F	(8 sheets)



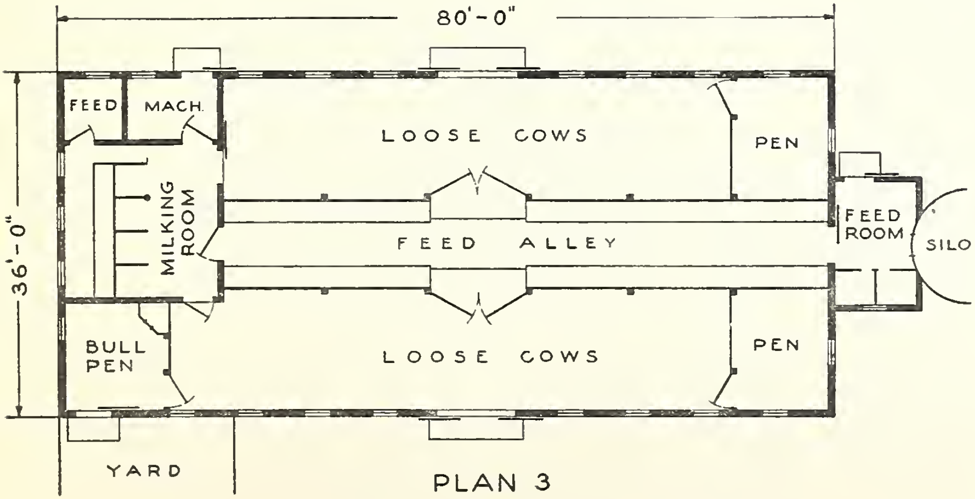
PLAN 1



PLAN 2

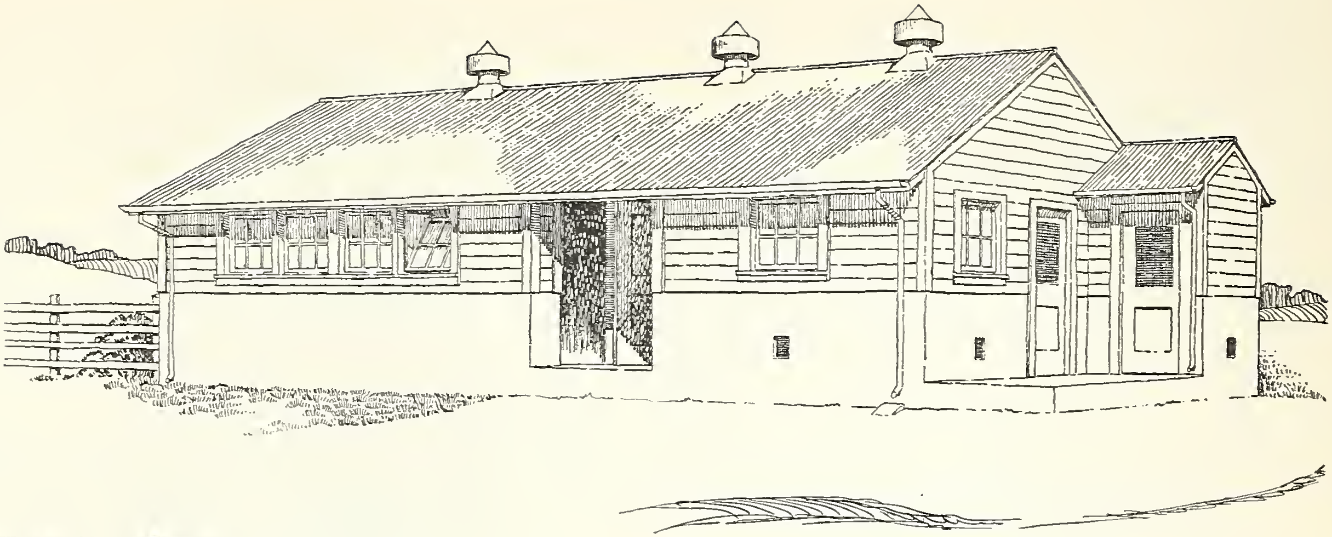
PEN BARNS

Three different floor layouts are shown on the plans for this 36-foot barn. Drawings are available, as indicated below, to provide for framing the barn in any one of the six ways illustrated on pages 25 and 26. Before selecting plans the local dairy inspection agency should be consulted regarding sanitary regulations.



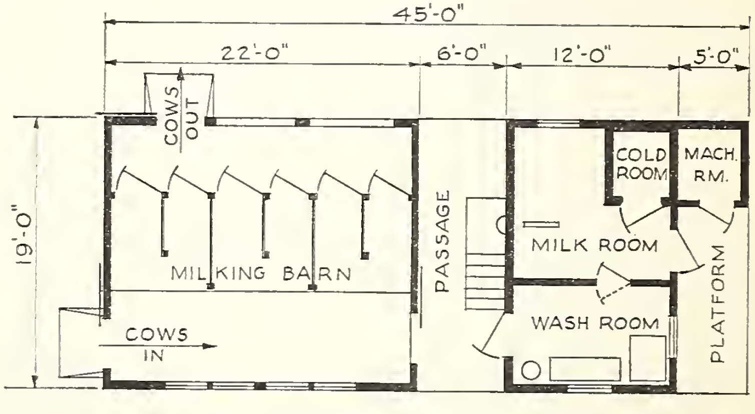
PLAN 3

Gothic roof (2 stories)
Drawing No. 723–5118A (9 sheets)
Gambrel roof (2 stories)
Drawing No. 723–5118B (9 sheets)
Gambrel roof (1½ stories)
Drawing No. 723–5118C (9 sheets)
Gable roof (1½ stories)
Drawing No. 723–5118D (9 sheets)
Gable roof (1 story), flat ceiling
Drawing No. 723–5118E (8 sheets)
Gable roof (1 story), sloped ceiling
Drawing No. 723–5118F (8 sheets)



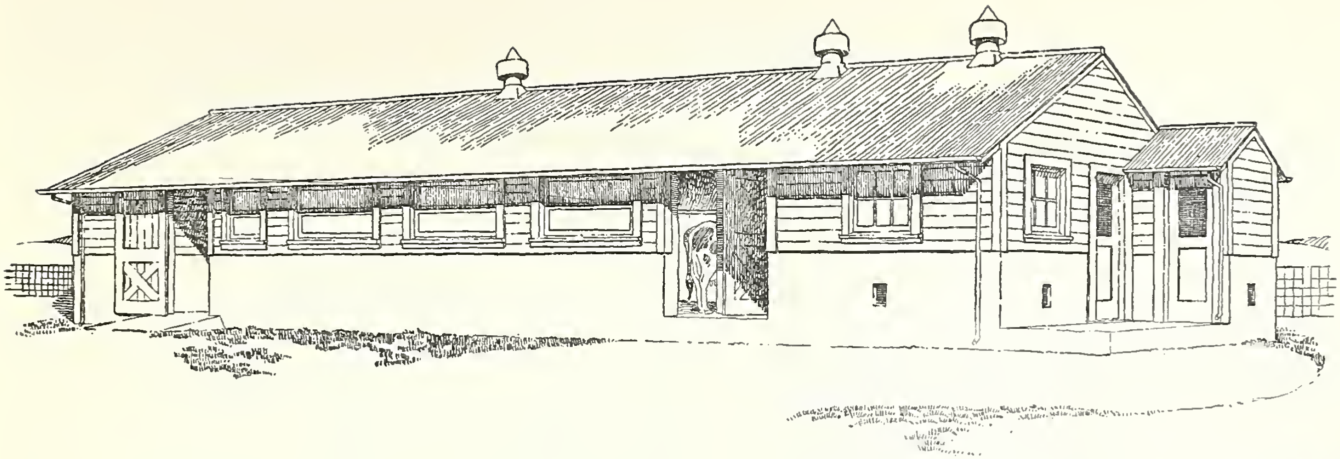
PARALLEL-STALL, WALK-THROUGH MILKING BARN AND MILK HOUSE

The milking barn space shown contains six parallel walk-through stalls, arranged in pairs 7 feet wide. With a milking machine one man can handle four stalls efficiently. The herd is brought up a paved lane from the shelter barn and six cows are admitted to the stalls. When one has been milked the gate at the head of the stall is opened and the cow passes through to return to the shelter barn down a second lane. Six stalls are enough for milking 30 to 60 cows. The chief advantages of this type barn over the one-string stanchion barn are low cost and convenience. If feeding during milking is preferred, a metal feed tub may be hung on the stall door. A cow can usually be milked within 6 minutes, but needs at least 12 minutes in which to eat. The milk room is across an open passageway. Before selecting plans the local dairy inspection agency should be consulted.



PLAN

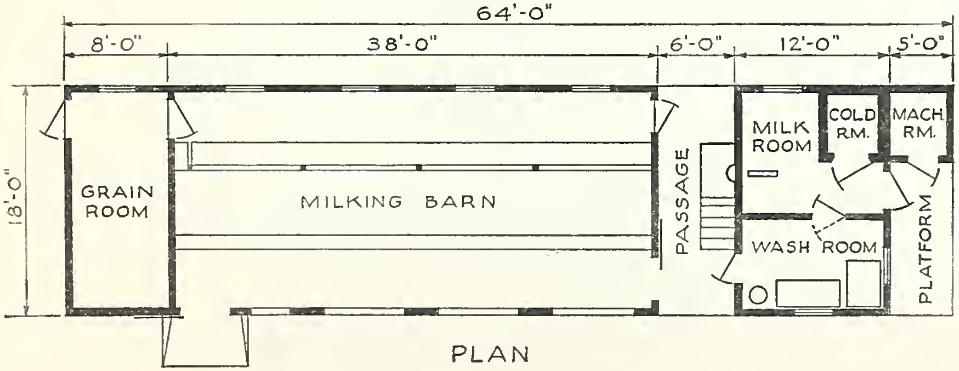
Drawing No. 752–5457 (5 sheets)



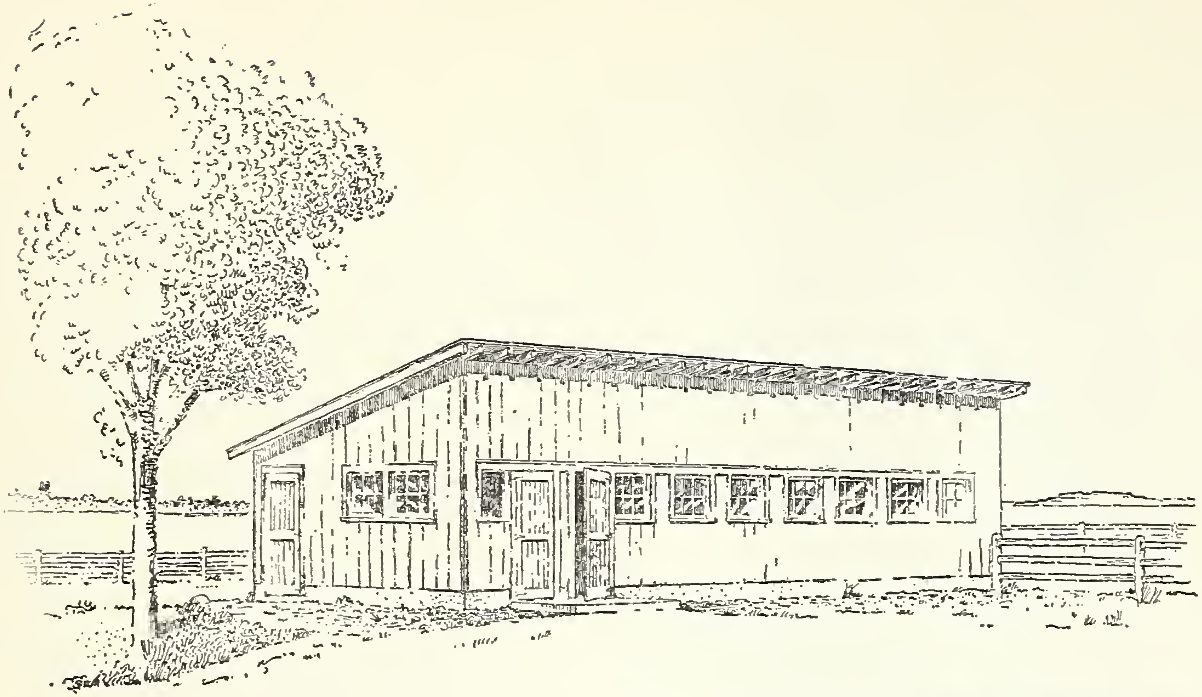
ONE-STRING MILKING BARN, GRAIN ROOM, AND MILK HOUSE

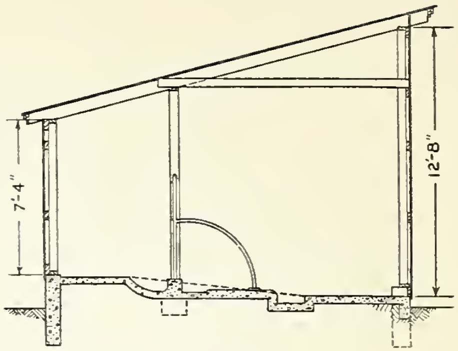
The barn contains 12 stanchions in 1 row. The herd is brought up a paved lane from the feed and shelter barn. Twelve cows are admitted to the barn and the others are held in the lane. After milking the first 12 cows they are released and return to the feeding barn down another lane and the second group of 12 is admitted. The barn will serve a herd of 36 to 48 cows. The length can be varied to suit herds of different size; 10 feet being enough for three stalls. The chief advantage of this type of barn over the standard two-string type is the lower investment per cow. The grain room will hold about 10 tons of sacked feed. The milk house is across an open passage. Before selecting plans the local dairy inspection agency should be consulted regarding sanitary regulations.

Drawing No. 723–5458 (5 sheets)

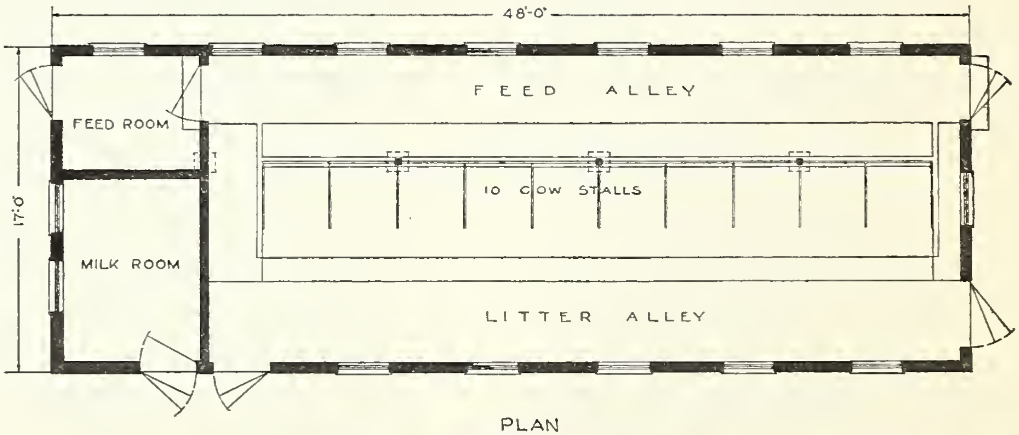


PLAN





SECTION

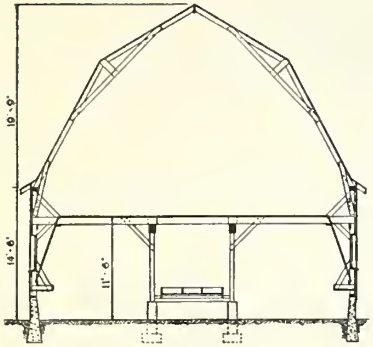


PLAN

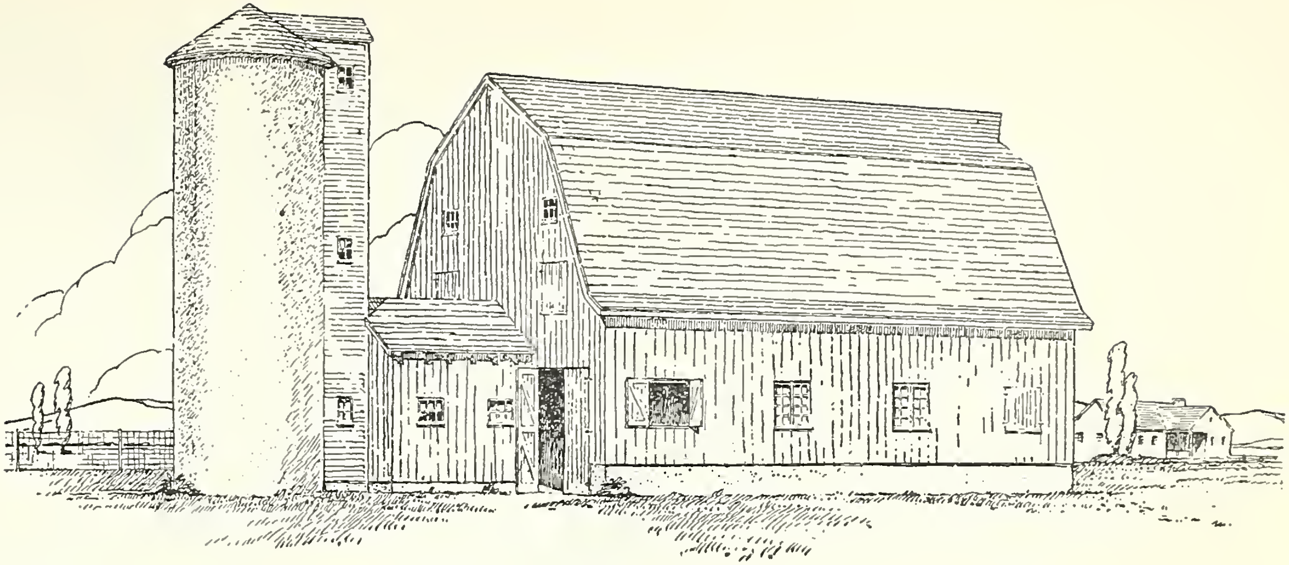
DAIRY BARN

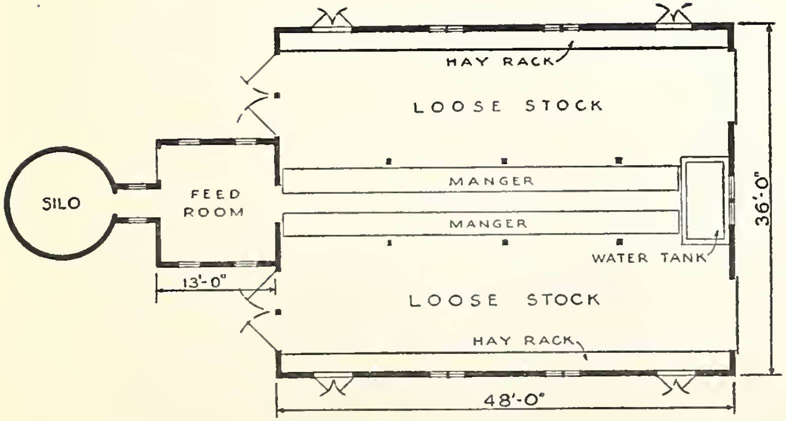
This one-row shed-roof barn has been designed for possible conversion into a gable roof, two-row barn. The high side is to have posts on piers and, when widening, this wall can be removed without damage to the first unit. In some sections, where a milk room is not permitted inside the barn, that space could be utilized for feed storage. Any approved type of manger may be used, and the length of the platform can be varied to suit different sized cows. The side walls are framed with posts and girts which can be covered economically with vertical boards or corrugated metal. Before selecting plans the local dairy inspection agency should be consulted regarding sanitary regulations.

Drawing No. 723–5459 (1 sheet)



SECTION





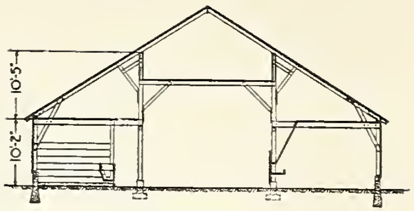
PLAN

BEEF-CATTLE BARN

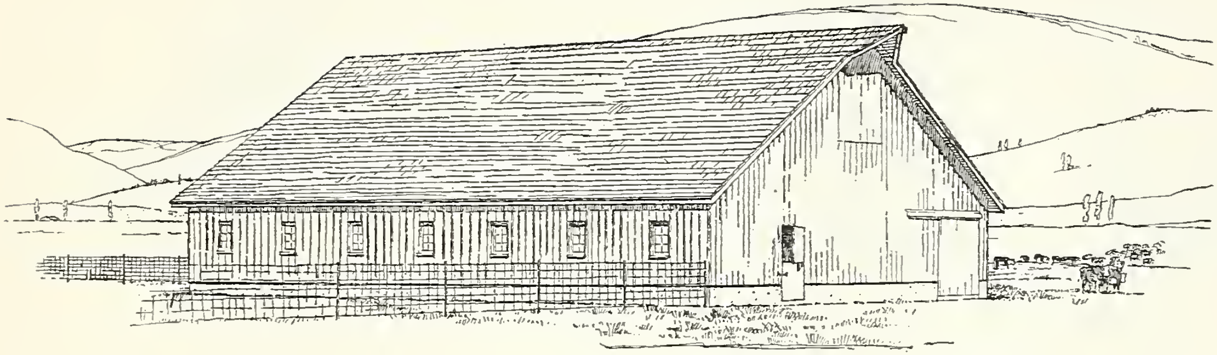
While housing is not essential for fattening steers, it pays to protect them against storms. Breeding stock should be sheltered, and young stock will make cheaper gains when protected from the elements.

Since a beef-cattle barn is used only part of the year for cattle it should be arranged so that it can be adapted for other purposes during summer. With large doors, it can be utilized for sheltering implements, or storing grain and fertilizer temporarily. Capacity—34 steers and 50 tons of hay.

Drawing No. 724–5262 (3 sheets)

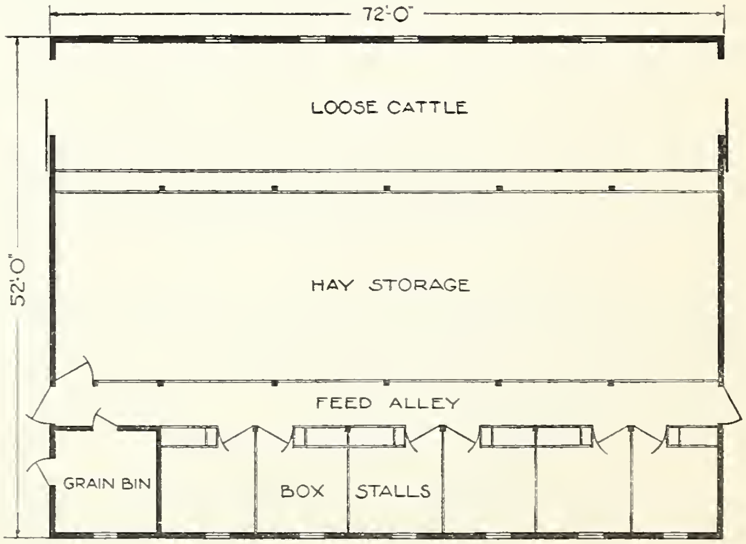


SECTION

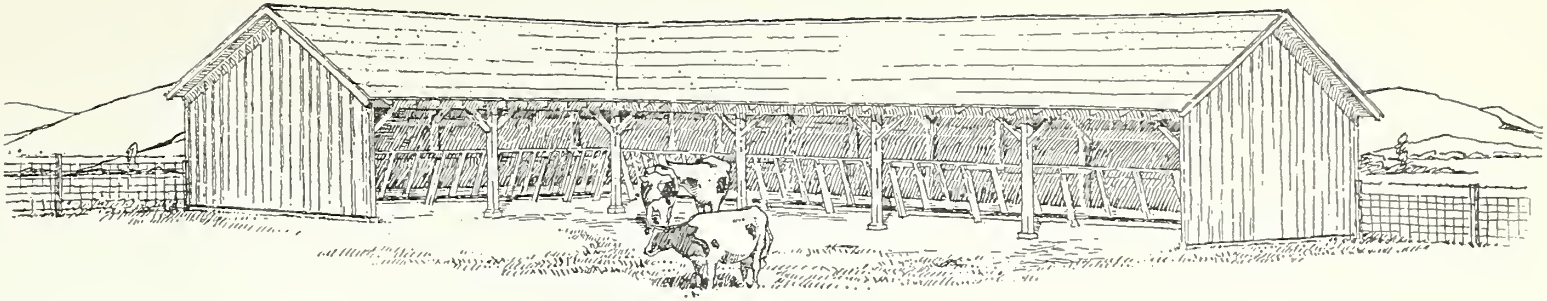


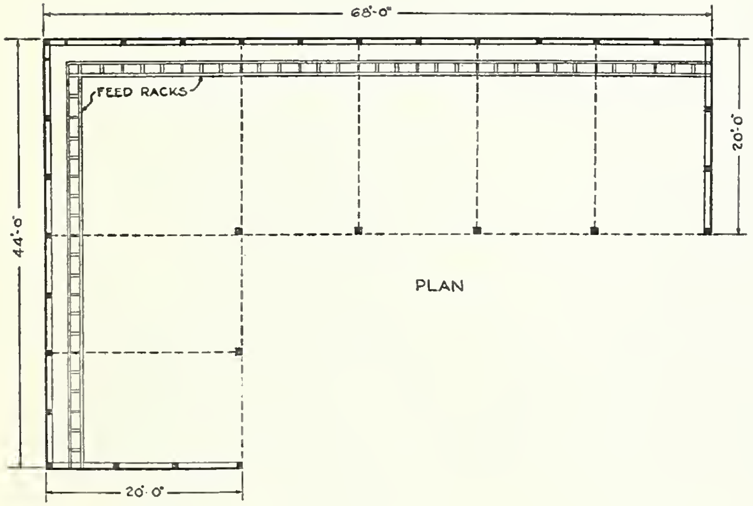
BEEF-CATTLE BARN

This barn is wide enough to allow for hay storage space from floor to roof and for pens on each side. A large pen on one side will accommodate about 28 head while there are 6 box stalls and a grain bin on the other. The mow holds about 85 tons of loose hay.
Drawing No. 724–5265 (3 sheets)

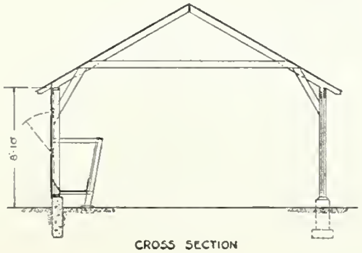


PLAN





PLAN

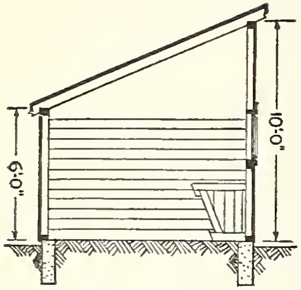


CROSS SECTION

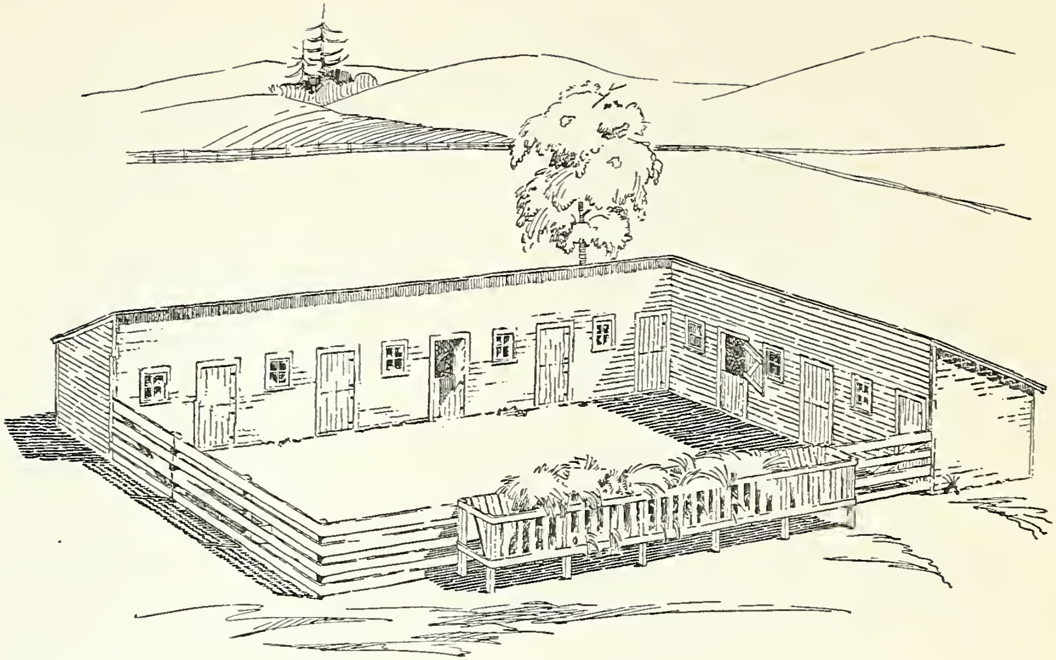
CATTLE SHED

For cattle in the feed lot and for some conditions of range feeding such a shelter may prove desirable. It might also be useful for sheltering dry cows or young stock on a dairy farm. The plans show an L-shaped shed but it could be built in a straight line. The closed sides serve as a windbreak. Doors in the rear wall permit filling the mangers from a truck. The mangers could be omitted if the structure is used only for a range shelter.

Drawing No. 724–5460 (1 sheet)



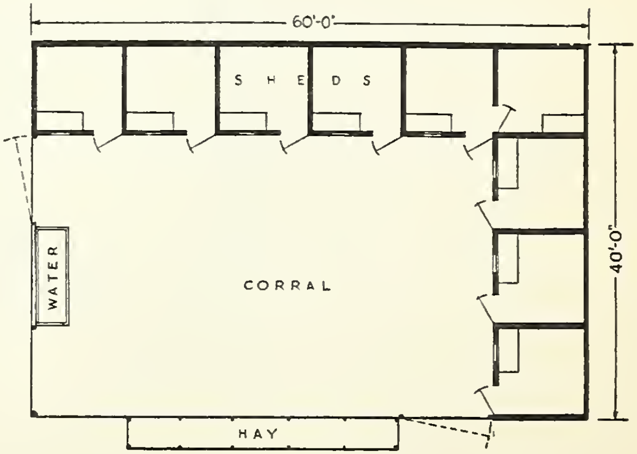
SECTION



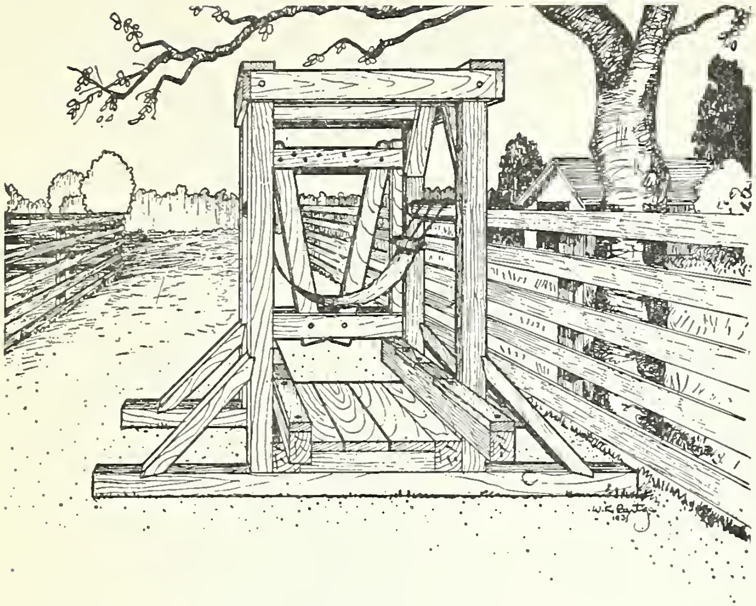
CALVING BARN

Where calves come before warm weather, it is desirable to provide a shelter for calving. The accompanying sketch represents an inexpensive type of maternity barn with the rear corner towards the direction of prevailing winds. Such barns are often roofed with hay in place of shingles or roll roofing. As many compartments may be added as desired.

Drawing No. 724-5461 (1 sheet)



PLAN



CATTLE STOCKS

The stocks can be used for dehorning, trimming hoofs, drenching, swinging injured animals, and restraining animals during surgical operations.

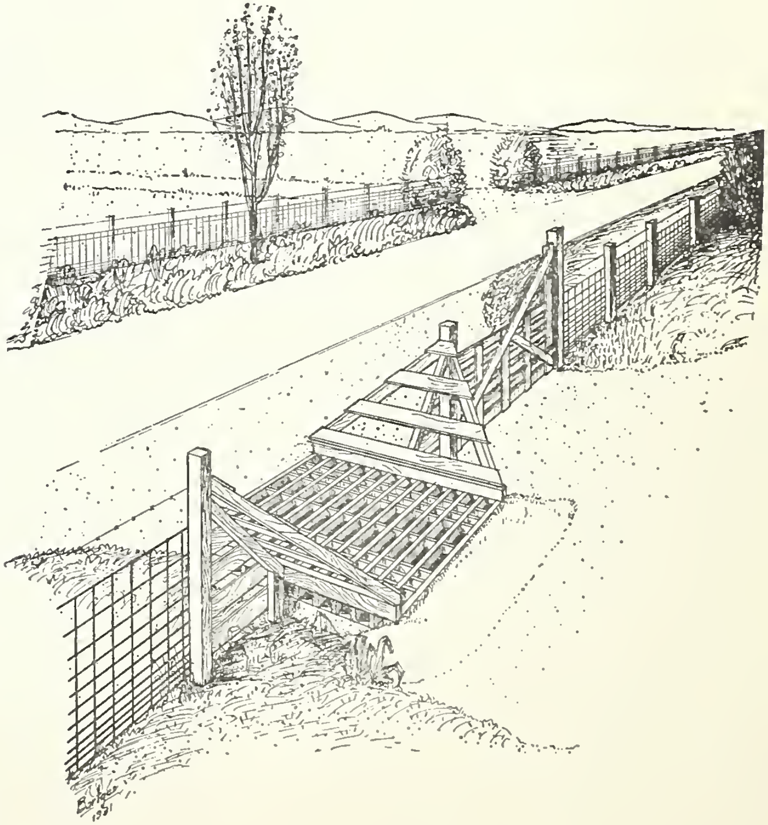
The canvas sling is wound up on the side rollers by means of steel turning rods. Short pieces of hardwood are inserted in the tops of the guardrails for hoof-trimming blocks. A 2- by 8-inch plank may be placed on edge across the floor under the stanchion to keep the animal's front feet from slipping out.

Drawing No. 7241–5066 (1 sheet)

CATTLE GUARDS

Guards set in a fence alongside a gate permit automobiles and trucks to pass freely but stop cattle, hogs, sheep, and most horses and mules. Three designs are available, each capable of supporting a 5-ton truck.

Drawing No. 7241–5468 of wood construction (1 sheet)
(Not illus.) Drawing No. 7241–5469 of concrete and wood (1 sheet)
(Not illus.) Drawing No. 7241–5470 of concrete and steel (1 sheet)



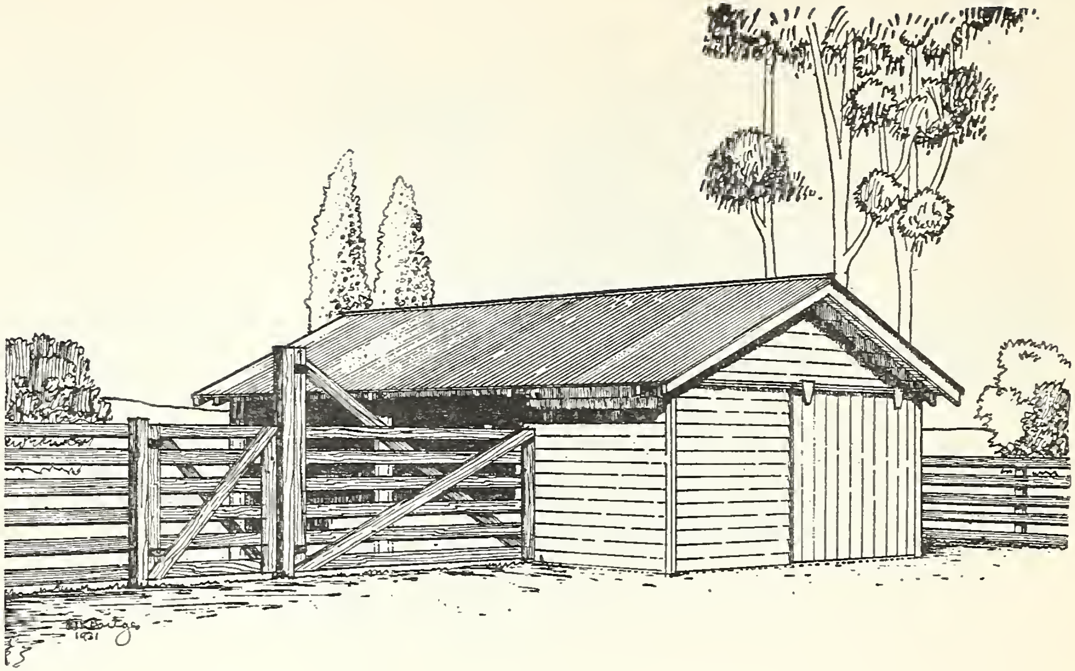
BULL BARN AND LOTS

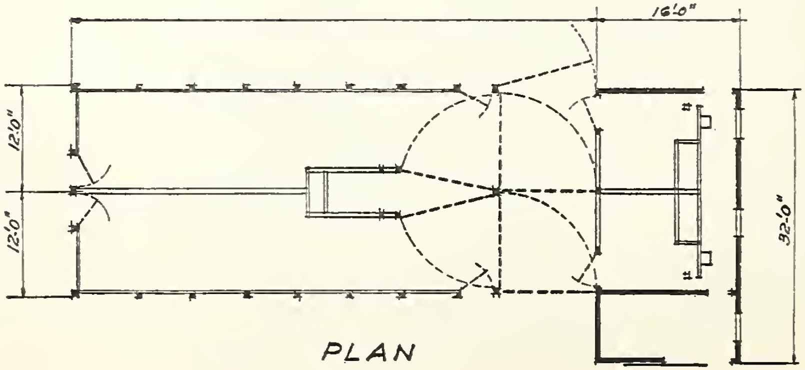
When herds have two bulls, two pens will be needed. With minor design changes the building may be shortened to one stall or lengthened for any number. A room at one end is for a few sacks of feed and 1½ tons of hay.

At one corner of each pen is an 18-inch opening from the feed alley guarded by a 6- by 6-inch post set out in the pen so that the attendant may crowd through. This is an excellent safety feature. The side of the pen opening into the yard is not tightly boarded but has a solid fence and gate. With rope controls the gate may be opened and closed from the feed alley. The concrete floor of the pens extends 12 feet into the yard.

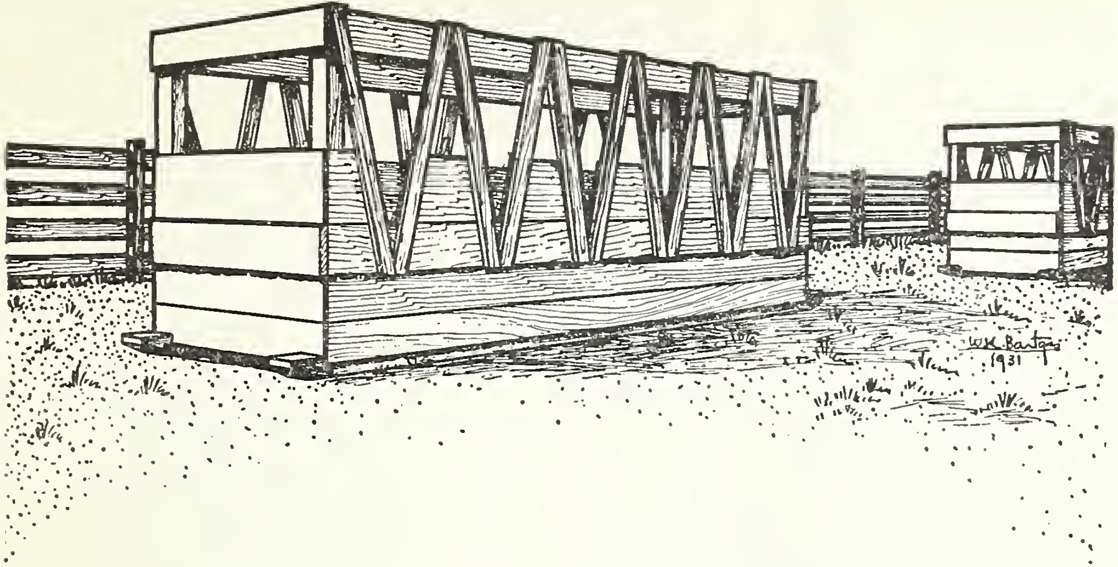
There are several safety features in the yard and breeding-stall arrangement. When a cow is to be served the bull not to be used is locked in his pen adjacent to the barn. The cow is then brought through his corral and put in the breeding stall. Opening the gate behind the stall admits the bull and closing it crowds him back into his corral without exposing the attendant. In wet weather the bulls may be held on the concrete areas by closing the two gates at the breeding stall.

Drawing No. 7241–5462 (2 sheets)





PLAN



⬅ CATTLE HAYRACK

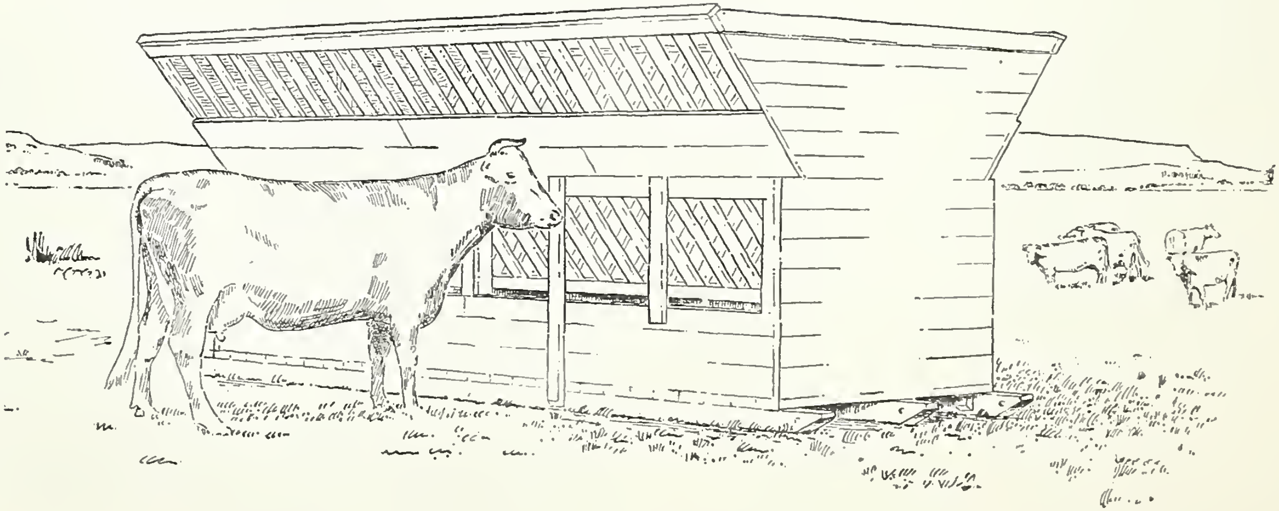
The V-openings of this manger are said to have an advantage over slatted racks in that less hay is pulled out and trampled under foot. The hay supply must be replenished daily, for if the rack is filled to the top as much hay will be wasted as when the slatted type is used. This movable rack 3 feet 8 inches by 15 feet by 5 feet high will accommodate 12 head.

Drawing No. 7241–5463 (1 sheet)

CATTLE HAYRACK ➡

This movable slatted rack is commonly used in feed yards. The large hopper does not require daily filling. The trough keeps fine hay from falling on the ground. The rack is 6 feet 2 inches by 20 feet by 8 feet 2 inches high and will accommodate 12 head.

Drawing No. 7241–5464
(1 sheet)

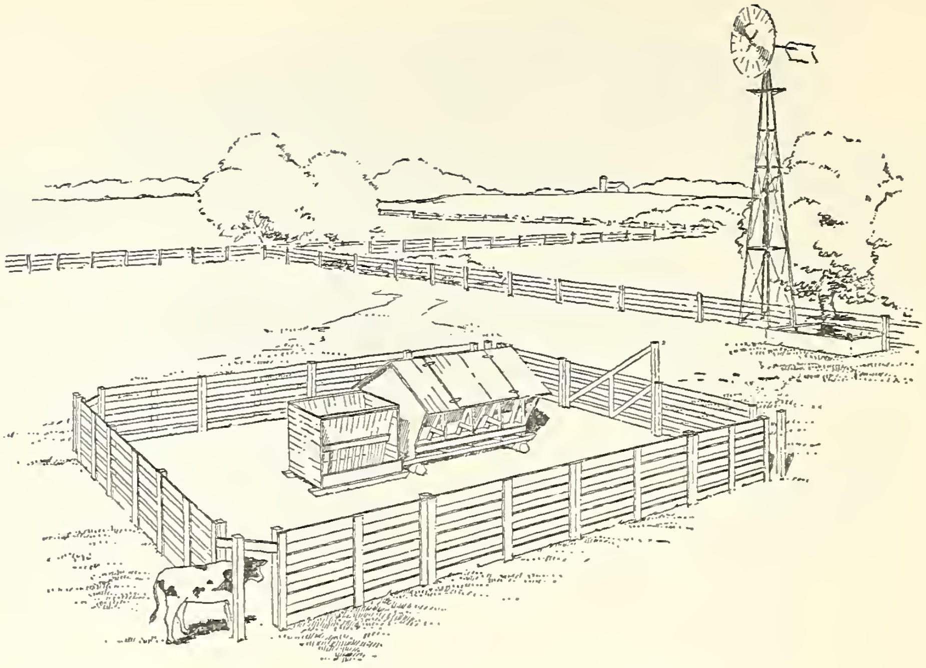


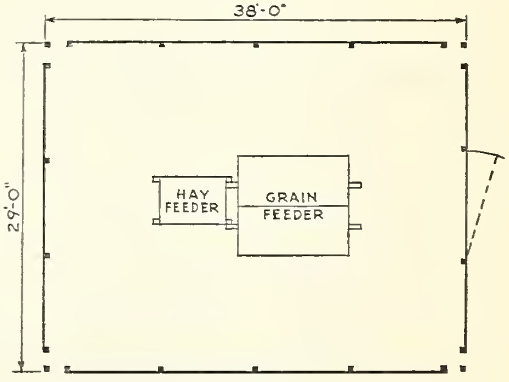
CALF CREEP

Creep feeding is a system of feeding grain to calves while they are running with their dams. The feeder shown has a capacity of about 3,000 pounds of grain, sufficient to serve 40 to 50 calves on grass. A small hay feeder is also suggested. The feeders should be enclosed by a fence providing sufficient space for free movement of the calves. There are openings at the corners large enough to admit the calves but to exclude larger animals, and a gate provides for bringing in grain and hay.

The creep should be at a central point where the herd comes regularly each day for water, salt, or shade.

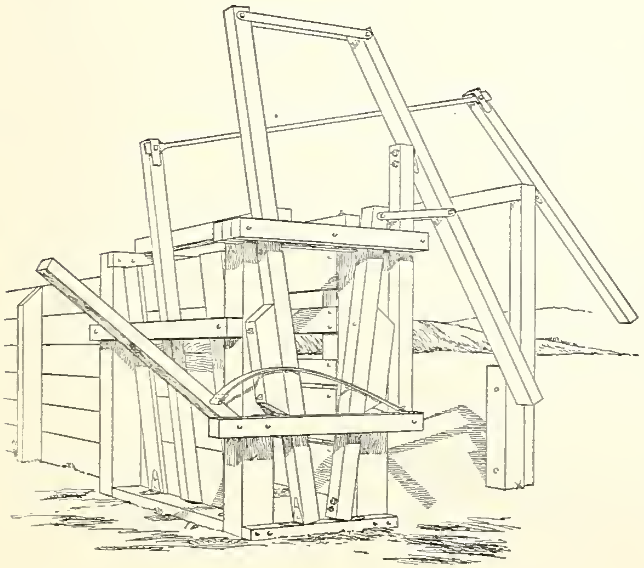
Drawing No. 7241–5466 (1 sheet)





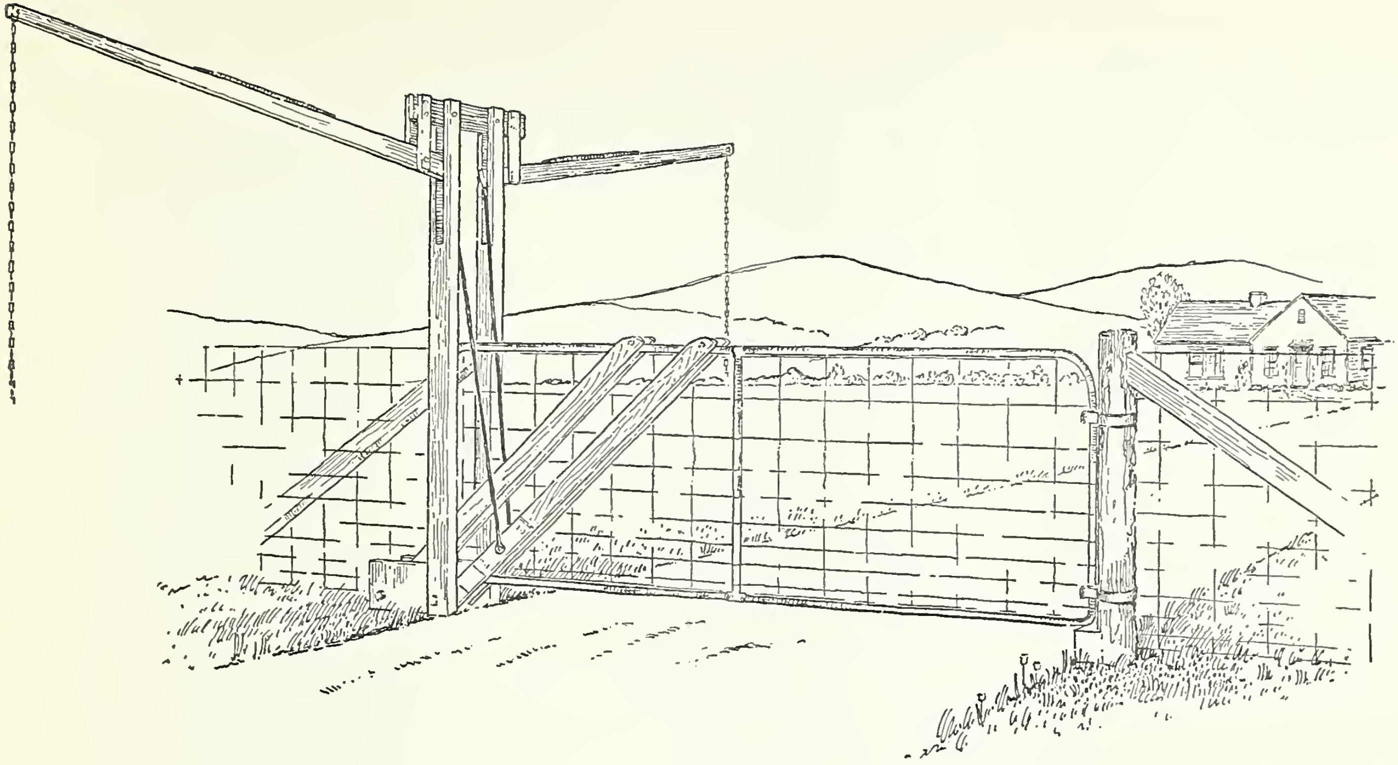
PLAN

CATTLE SQUEEZE



A chute for holding cattle when being dehorned, branded, or otherwise treated is an important piece of equipment on ranches. The right side of the chute is movable so the animals can be held snugly under pressure and without injury against the side. The arrangement may be reversed for branding on the left side. The front is so constructed that the head of the animal may be held absolutely firm during dehorning.

Drawing No. 7241–5465 (1 sheet)



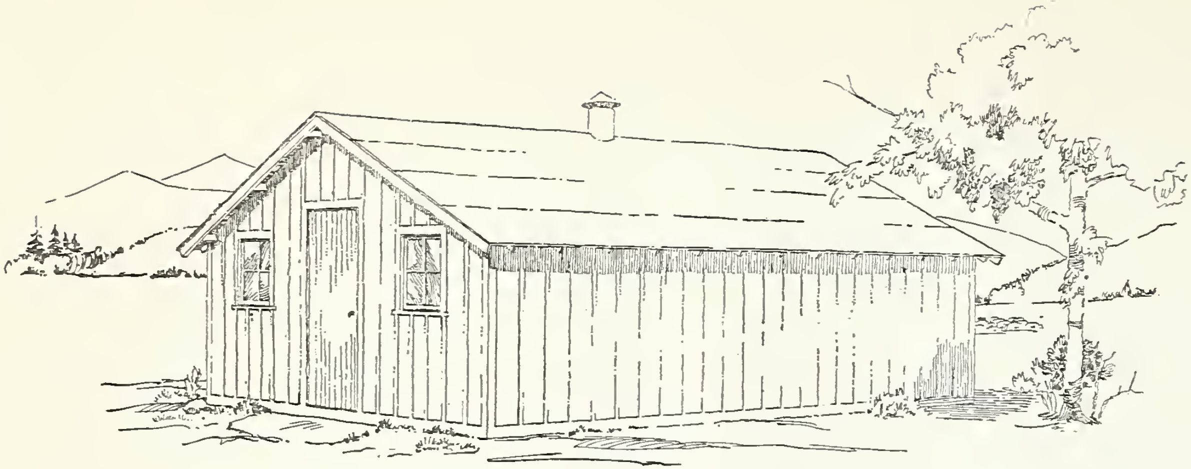
AUTOMATIC GATE

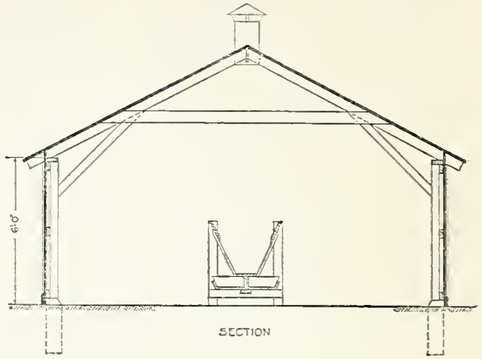
This gate can be opened and closed from a wagon or car, thus saving considerable annoyance when it is necessary to pass through several times a day.

Drawing No. 7241–5467 (1 sheet)

Several types of practical farm gates.
(Not illustrated.)

Drawing No. 7241–5505 (1 sheet)



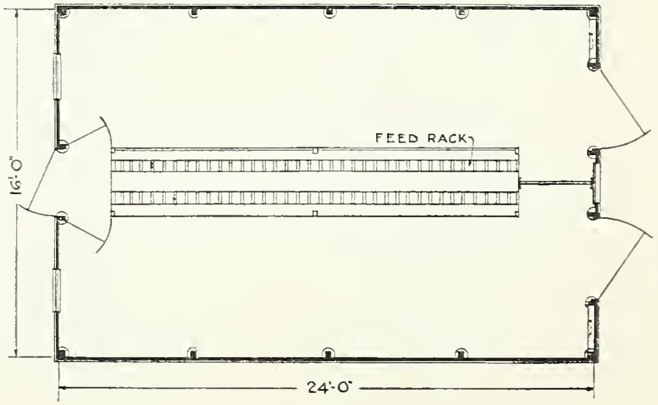


SECTION

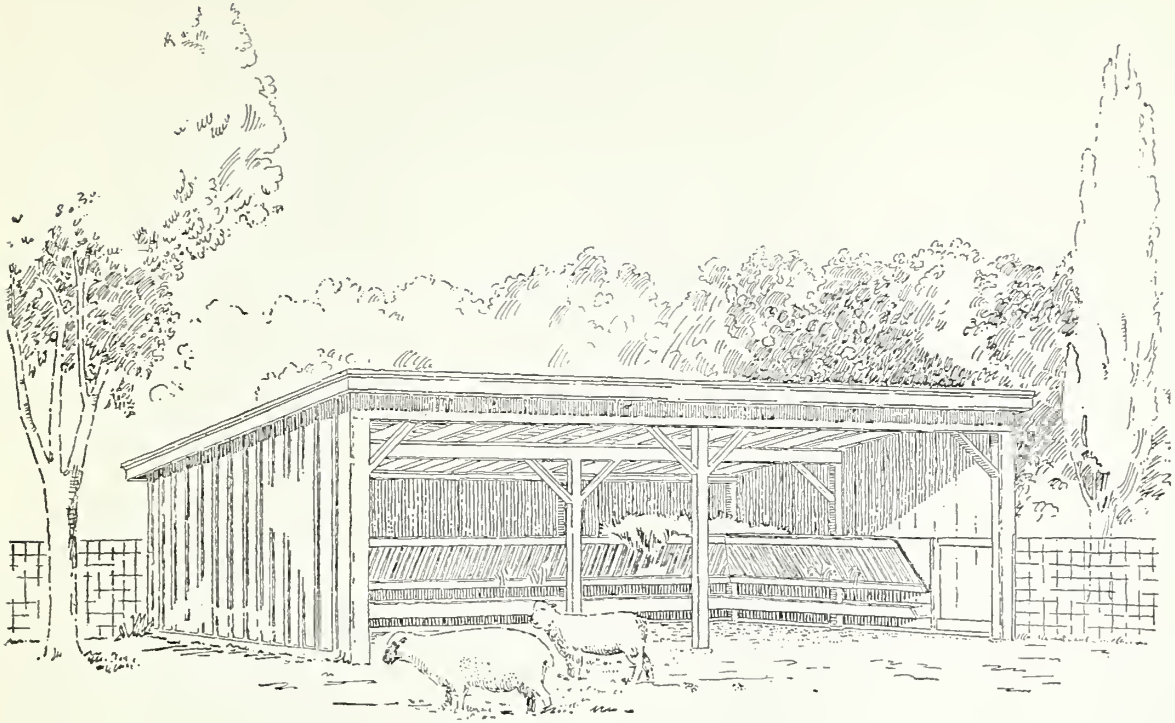
SHEEP SHED

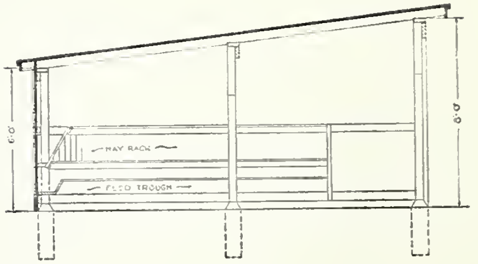
This simple type of closed shed is especially adapted for farms where the main barn has a large feed-storage space but not enough floor space for the stock. The shed is 16 by 24 feet, has room for 26 sheep and is suitable for winter lambing under most conditions. The windows should be hung on center pivots to provide for a full opening. The upper half of the rear doors are hinged at top to open up. The walk-through rack avoids disturbing the sheep while feeding.

Drawing No. 725–5019 (1 sheet)

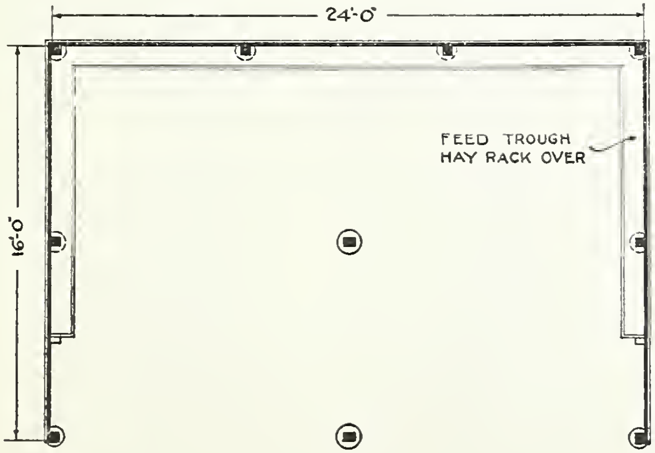


PLAN





SECTION

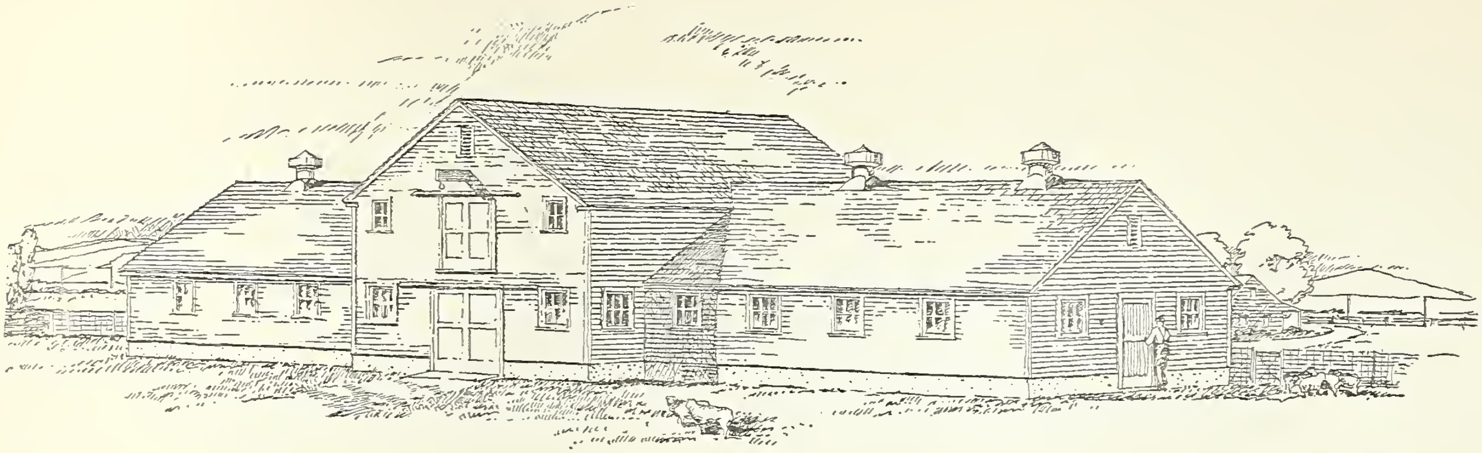


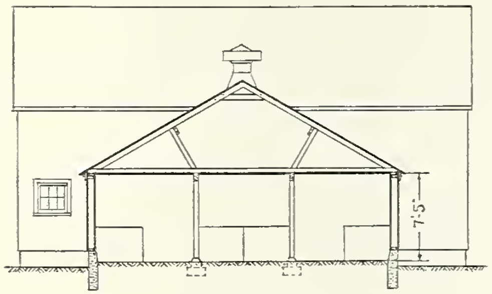
PLAN

SHEEP SHED

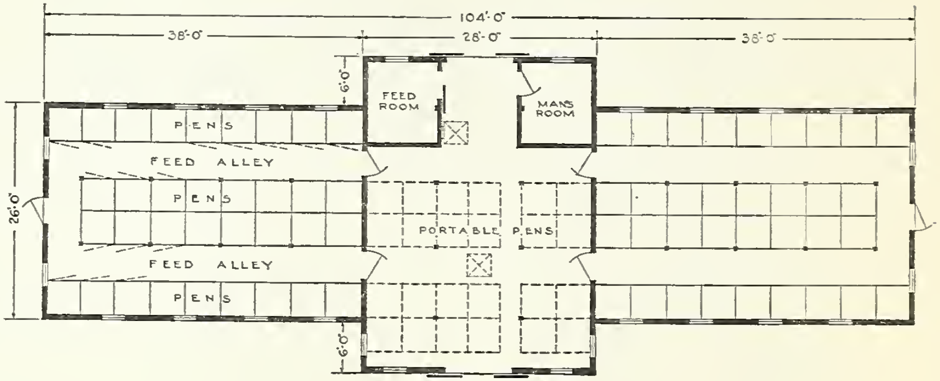
A shed of this type well protected by trees is satisfactory for mature sheep in almost any section. There is not sufficient protection for winter lambing in a cold climate, but in the South it may be used for this purpose. This shed, 16 feet wide by 24 feet long, will shelter 30 mature sheep.

Drawing No. 725–5025 (1 sheet)





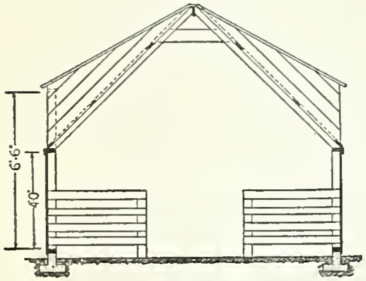
SECTION



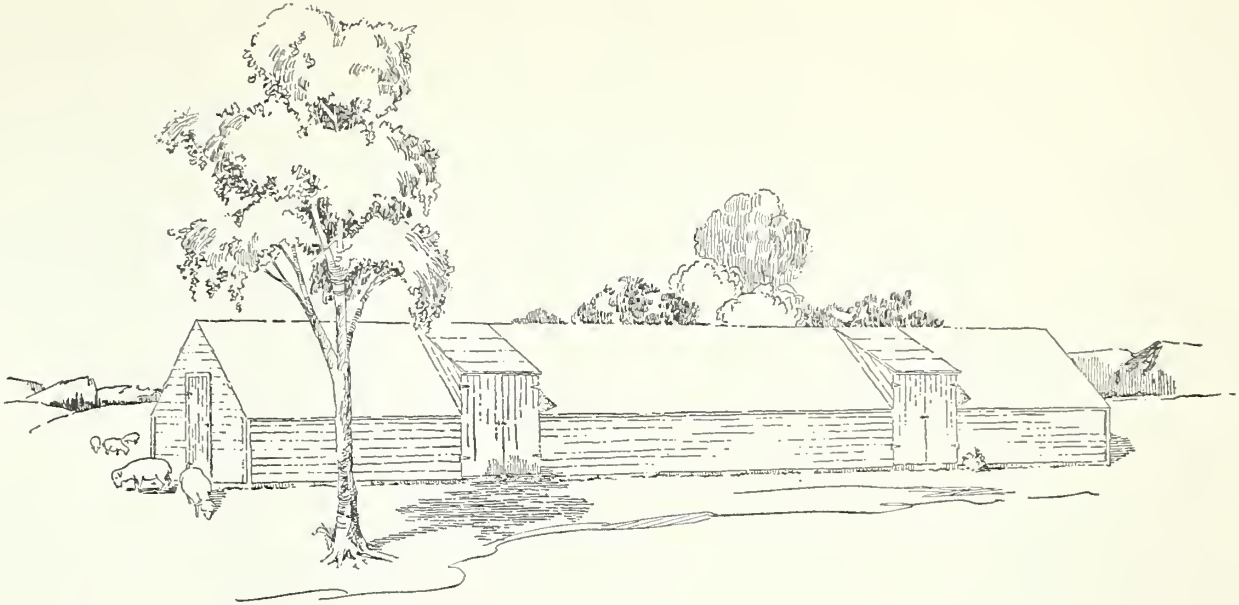
FLOOR PLAN

SHEEP BARN

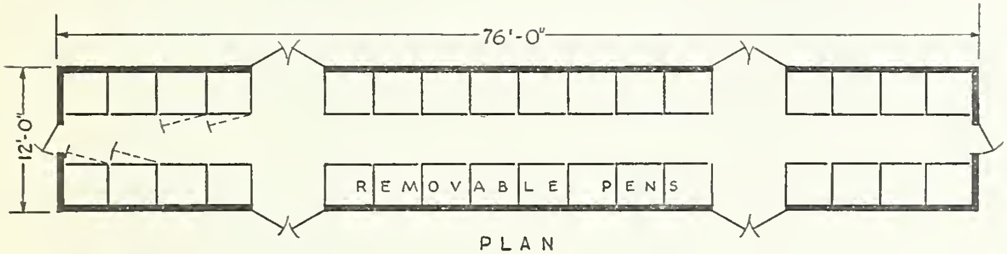
This barn has a two-story central part and two one-story wings. Each wing has 34 lambing pens, 4 by 4 feet, which are formed with movable panels. After the lambing season larger pens can be made by rearranging the panels. The first floor of the central part has a feed room and a shepherd's room, also space for 24 pens, 4 by 4 feet. If not desired for pens this space can be used for other purposes. The mow holds approximately 20 tons of hay. Drawing No. 725–5471 (2 sheets)



SECTION



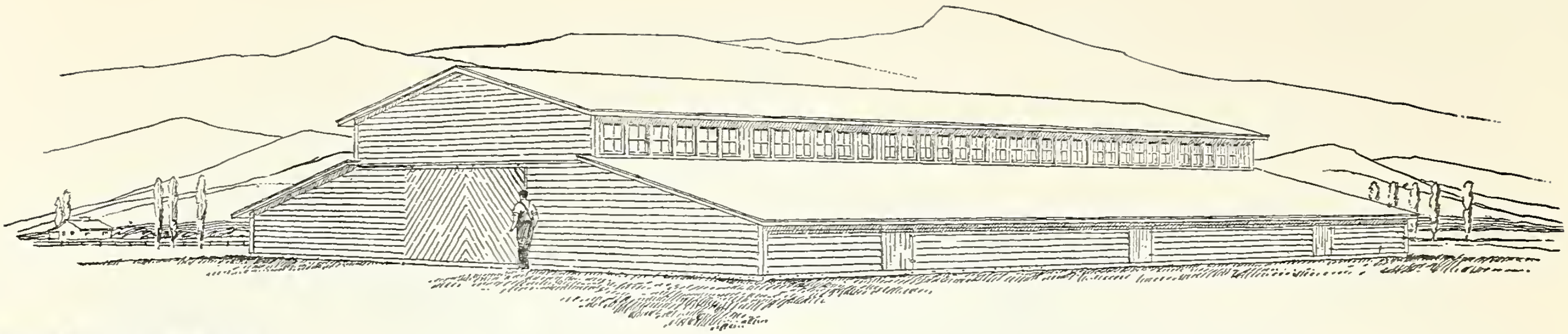
LAMBING SHED



PLAN

This cheaply built shed is convenient for range sheep production. It is designed in bays 8 feet long with doors spaced 16 to 24 feet apart along each side. The 12-foot-wide pen section provides room for a 4-foot central alley with 4- by 4-foot pens, formed with movable hinged panels, on each side. The outside walls are solid boarded as protection against marauding animals. A special feature is the roof of rafters and 4-inch slats that can be covered with a tarpaulin in bad weather.

Drawing No. 725–5472 (1 sheet)



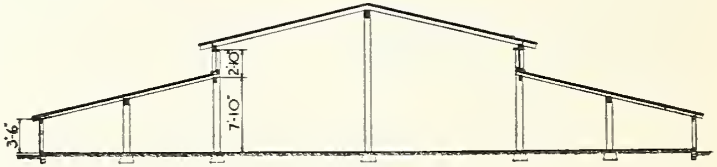
NIGHT DROPPING SHED

This shed is arranged for the handling of large numbers of lambing ewes with provision for special care until the lambs are 3 days old. The building is always kept the same width as shown but the length depends on the size of the flock. Down the center is a row of posts 16 feet apart and to each post are hinged two gates which permit of dividing the center section of the shed into various numbers or sizes of holding pens. Removable hurdles form small pens along the sides; some for lambing ewes and some for retaining ewes with lambs for the 3-day period. The lambing pens are 4 feet long by 3½ feet wide. The front is a gate hinged to a post and the sides and back are of two-panel removable hurdles. Space outside the pens is night quarters for the band.

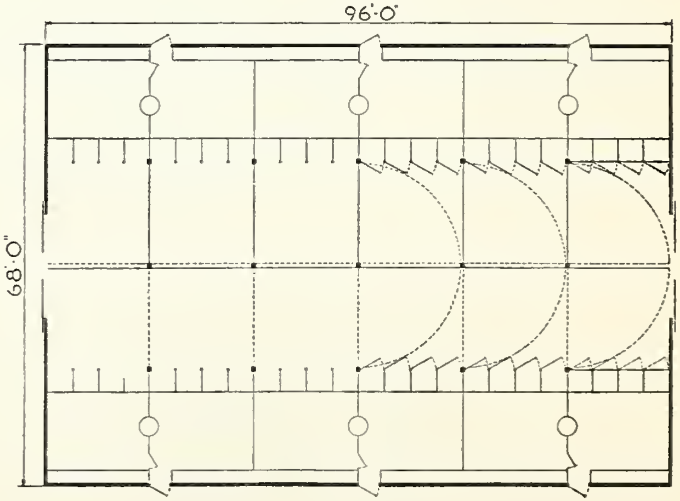
The shed may be entered from either end and when the band is driven in at evening it should go in at the proper door so the lagging ewes, those heavy with lamb, will be left near empty pens.

Each morning the lambs just born are branded with identical marks, a different mark for each day, and are placed with their ewes in the retention pens. Each of these pens holds 12 ewes with their lambs. The rest of the band, except those about to lamb, are moved out to range for the day.

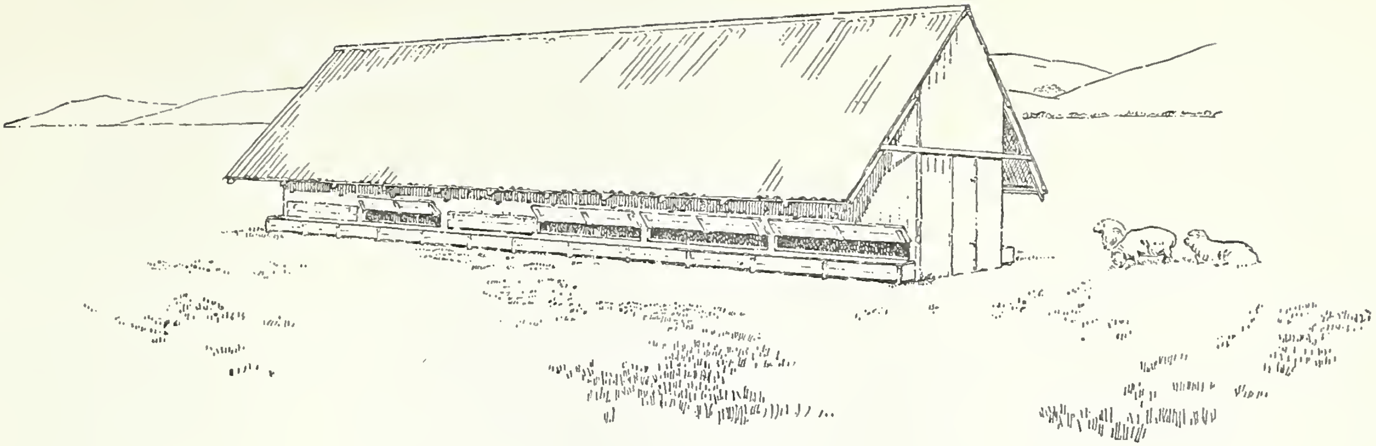
Drawing No. 725–5473 (1 sheet)



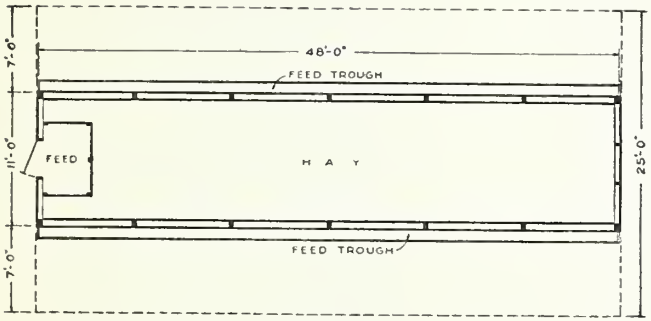
SECTION



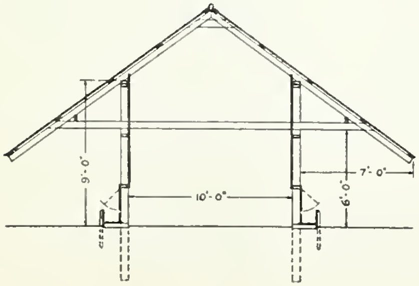
PLAN



RANGE SHEEP FEEDER



PLAN



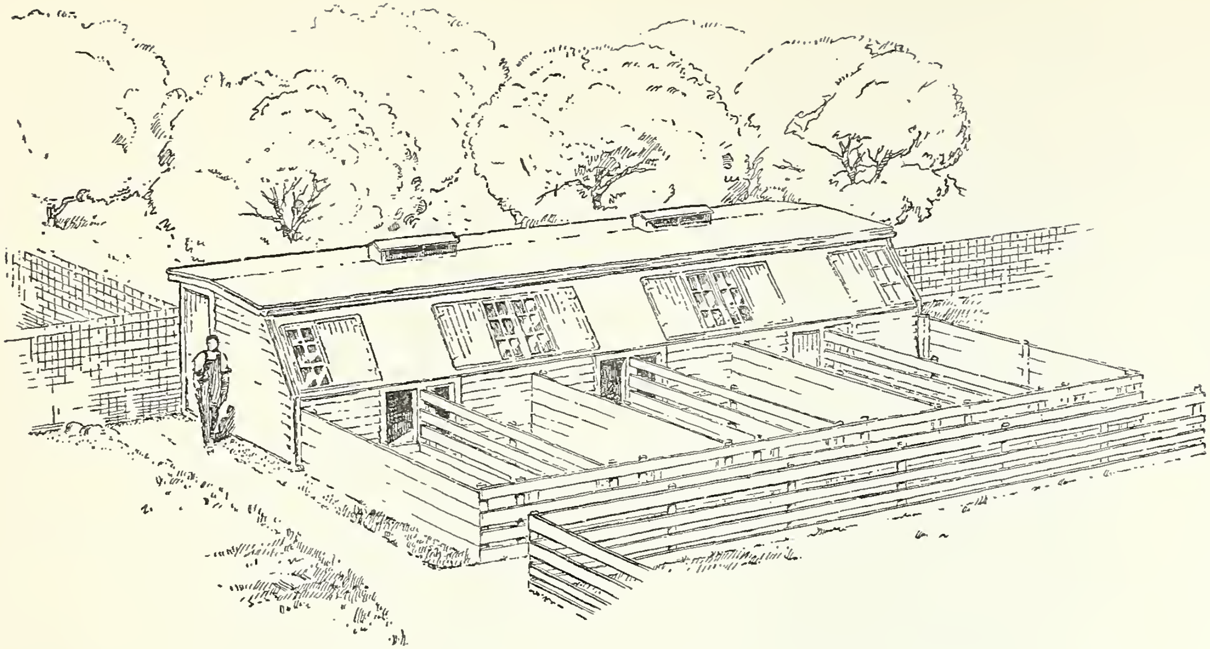
SECTION

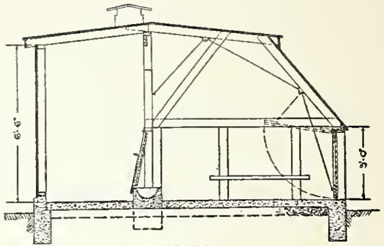
It is sometimes difficult to haul feed to the ewes in winter. The feeder represented for use in a fenced field where sheep are wintered was designed to hold a quantity of chopped hay. It will hold 18 tons of alfalfa hay, which should last 200 ewes 60 to 90 days, depending on the supply of range grasses and the severity of the winter.

This type of feeder is designed primarily for flocks wintered in fenced pastures and is probably not suitable on the open range where sheep run in large bands. It would be practical near a central lambing shed where ewes are held until the lambs are old enough to go on the range.

If it stands with its long axis across the prevailing wind, it will form a windbreak for the flock and the hay will not be blown from the mangers.

Drawing No. 725–5474 (1 sheet)



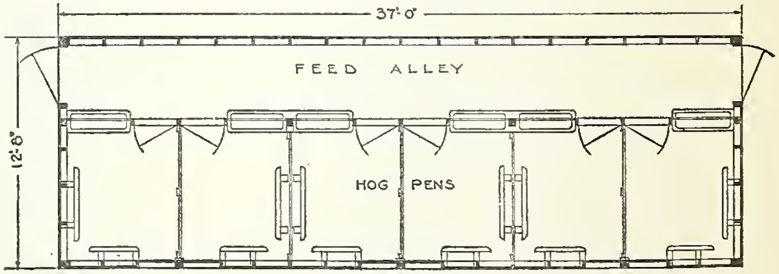


SECTION

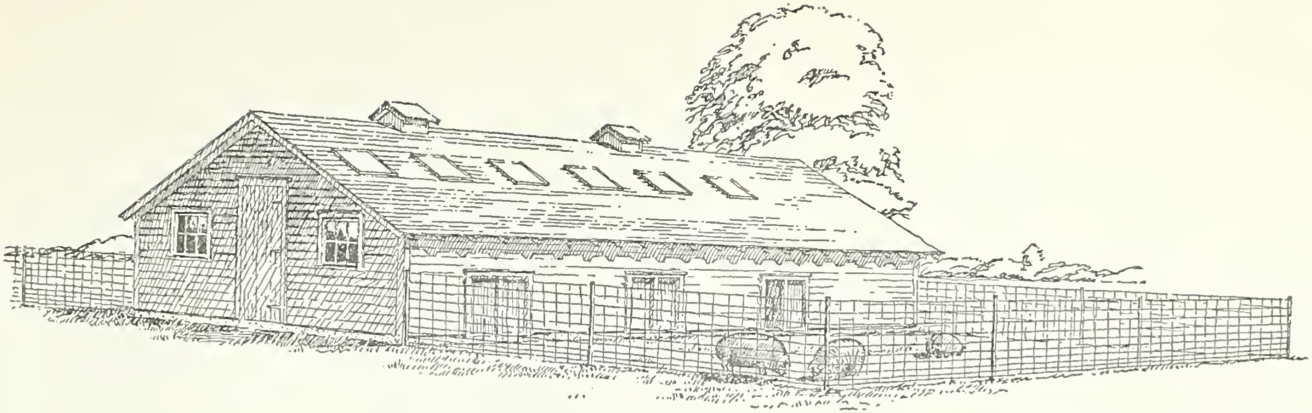
SINGLE-ROW FARROWING HOUSE

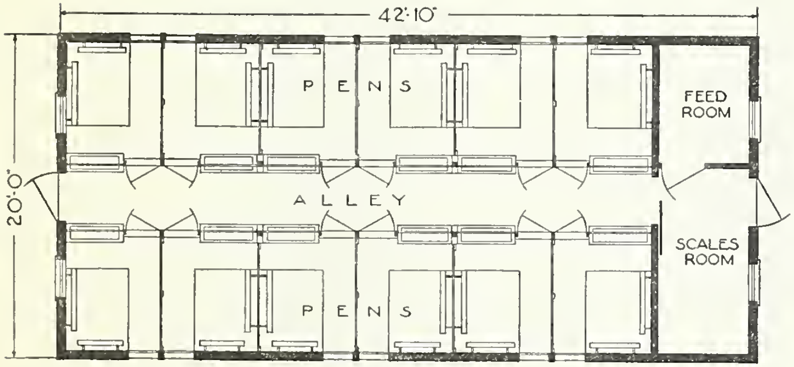
A low-cost house that can be built with two or more pens. The low roof makes for economy and warmth and the feed alley is convenient, especially in bad weather. The partitions between pens can be removed for handling a bunch of pigs after weaning. The roof windows, if the house is properly placed, permit sunlight to shine on the pens during the farrowing season. Shutters which can be opened are provided for ventilation in warm weather.

Drawing No. 726–5475 (1 sheet)

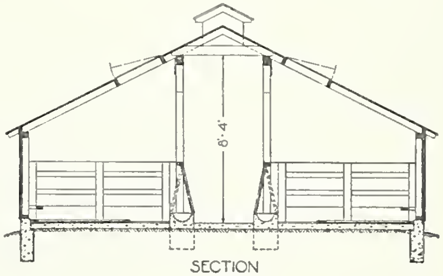


FLOOR PLAN





PLAN

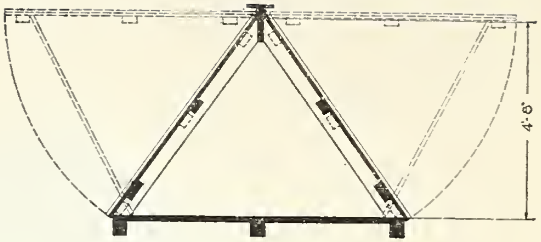


SECTION

FARROWING HOUSE

Placing the long axis of this house north and south improves lighting. Roof windows make side walls feasible. Floor and foundations are concrete; removable planks in one corner of each to provide a warmer bed for the sow and pigs. Ventilation ducts run between the rafters, and the roof vents reduce drafts. Partitions between pens are removable to make the building usable for fattening hogs. The feed and scales rooms may be included or not. A chimney could be built in one of these rooms to provide for a cooker or small heating stove if heat is necessary. The walls could be built of concrete block or other masonry instead of frame. The length of the house can be varied to suit the herd size.

Drawing No. 726–5476 (1 sheet)



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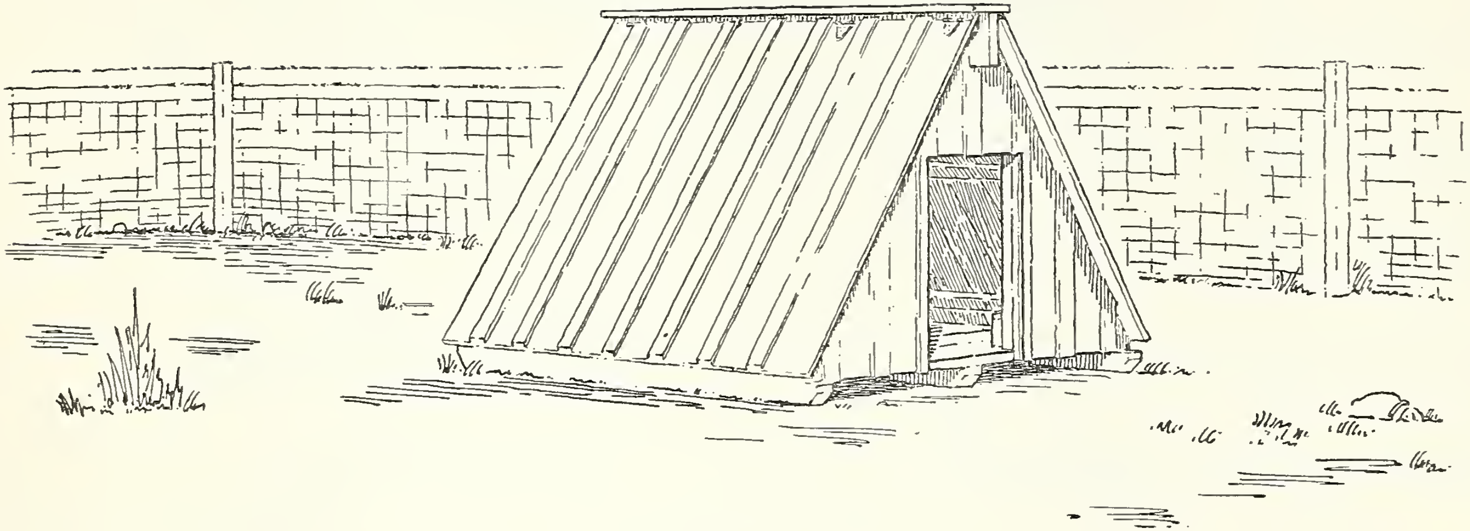
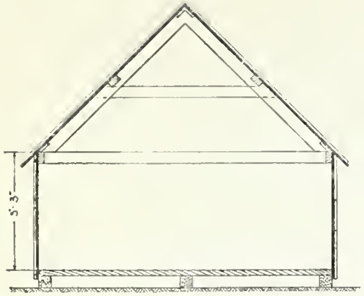


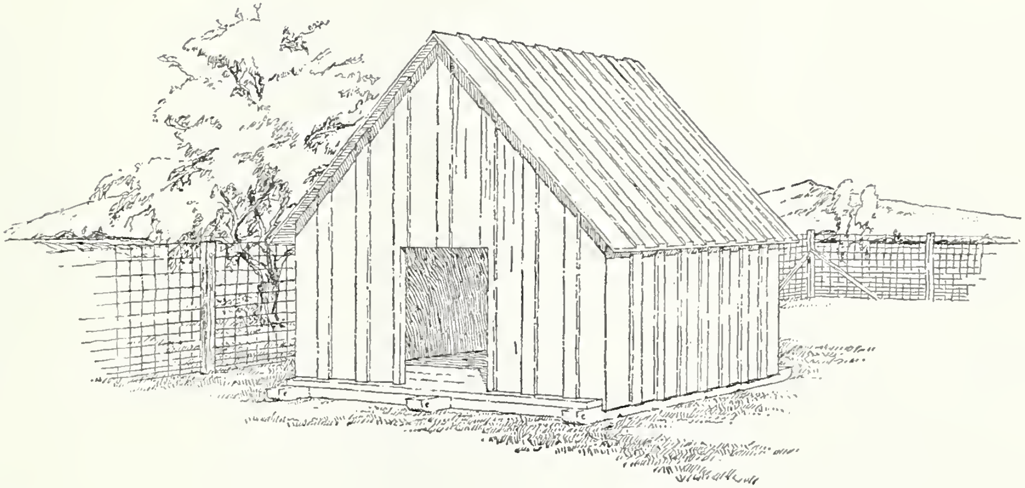
PORTABLE HOG HOUSE

This 8- by 8-foot A-type house is built on skids for moving to clean lots. The sides swing up as shown to the left to afford shade and ventilation during hot weather. The floor can be removed for cleaning.

Drawing No. 726–5477 (1 sheet)



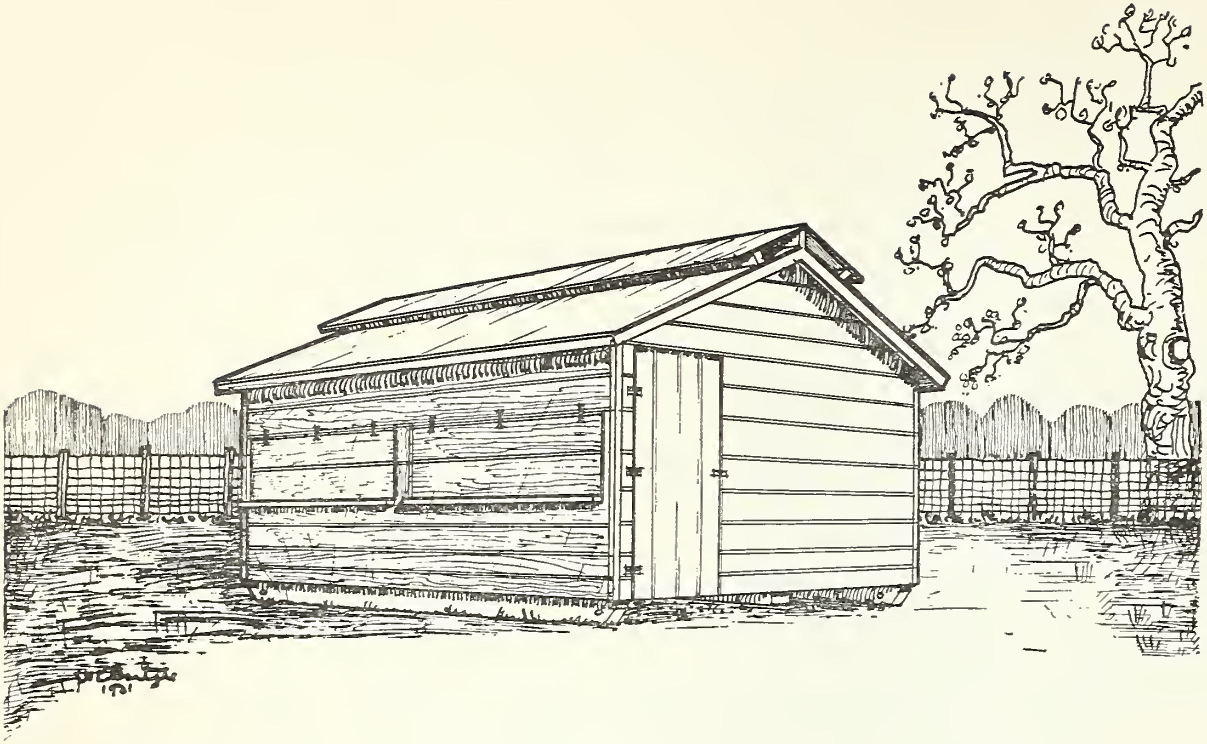
SECTION

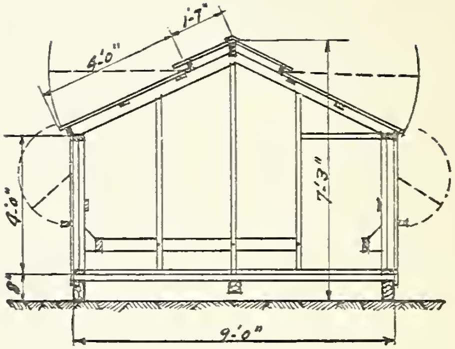


HOG HOUSE

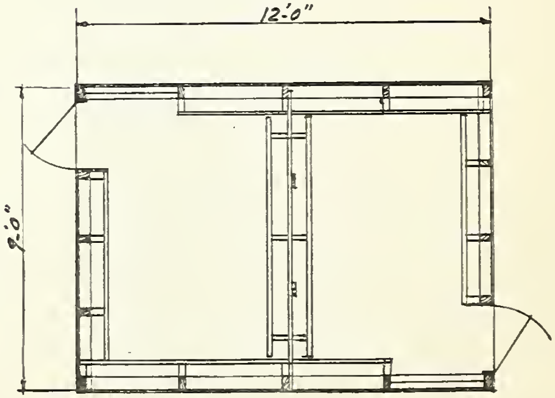
Two men should be able to build this 8- by 8-foot house in about 1 day. The floor is made of 2- by 12-foot planks nailed to three 4- by 4-inch by 10-foot runners. Siding is of 12-inch boards 3 feet 5 inches long with 1- by 4-inch cedar battens 1 inch shorter. The door opening may be closed by tacking a piece of heavy canvas to the 2 by 4 above the opening. A 1- by 2-inch strip nailed to the bottom of the canvas helps to hold it closed. A double swinging door that the hogs can push open from either direction may be used.

Drawing No. 726–5478 (1 sheet)





SECTION

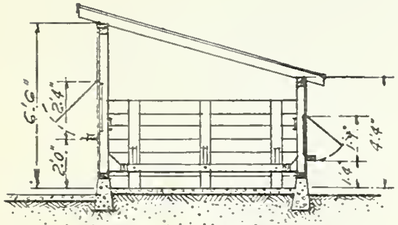


PLAN

HOG HOUSE

Although designed to shelter two sows and their litters, by removing the center partition, this house may be used for weaned pigs.

Guardrails are provided to protect young pigs from being crushed when the sow lies down. Shutters along each side wall and the lower part of the roof swing up to provide ventilation in summer. The roof monitor is built with ventilation openings. Drawing No. 726–5479 (1 sheet)



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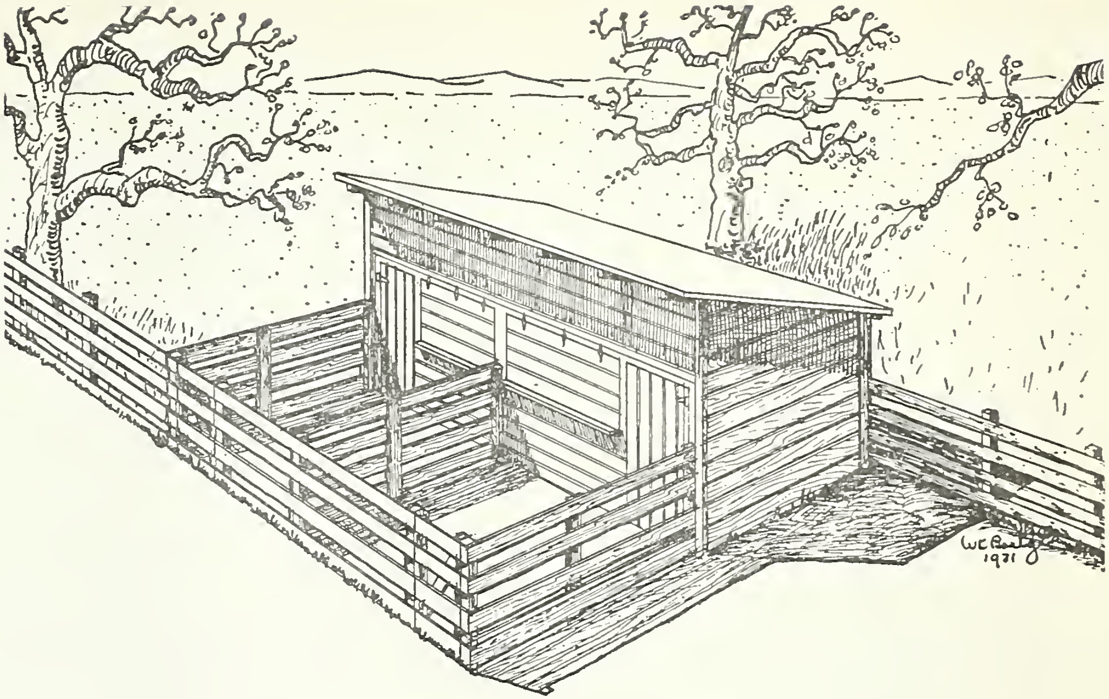
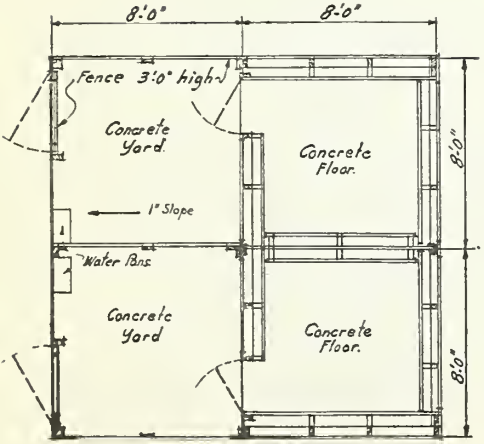




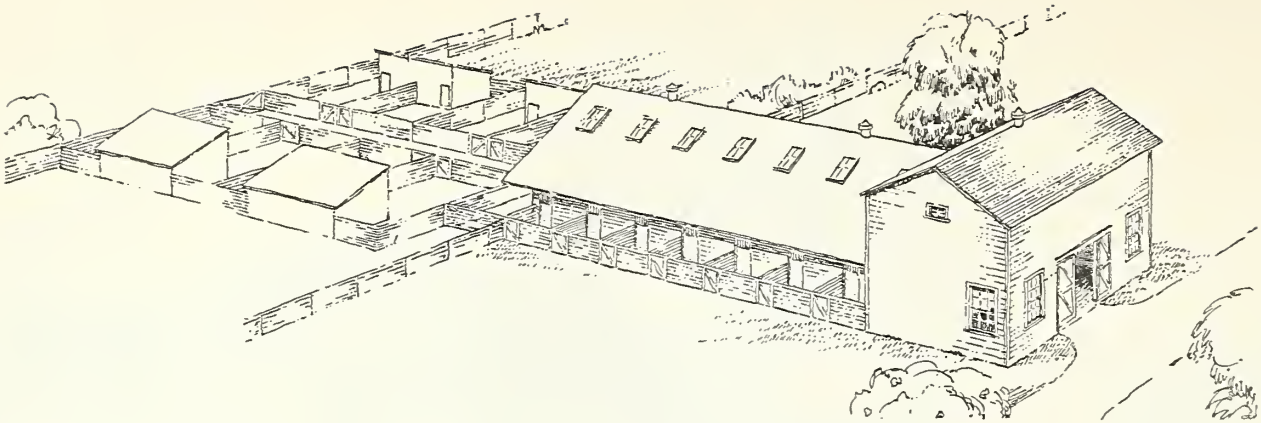
PLAN

FARROWING HOUSE

This house may be built to any desired size by adding units. An additional fence to form a lane in front of the pens would facilitate handling the sows and litters.

Concrete floors are used in both the pen and yard. Horizontal siding is used over wood studs for the walls and roll roofing or corrugated metal sheets on the roof. Wooden shutters hinged to swing up are provided front and back—those in front can be opened vertically to admit sunlight. For full advantage of this feature the house should face south.

Drawing No. 726–5480 (3 sheets)



HOG BARN

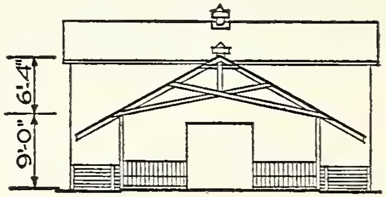
This barn is primarily for large purebred hog ranches in warm localities. In some regions farrowing may be continuous except during 4 to 6 weeks in midwinter and again in midsummer. With this program the maximum annual capacity of the barn becomes 18 to 20 sows per pen, if the sows with litters are removed to field shelters or individual pen shelters shown in rear of barn. By removing partitions between pens the barn may be used for feeding pigs.

In the two-story part there is space for baled straw, sacked feed, hoppered feed bins, and an office or herdsman's room.

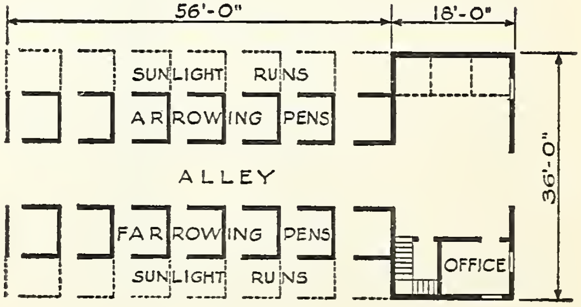
Both sections are of frame with concrete floors. The lots and shelters to the rear suggest a convenient arrangement, but are not a part of the plan.

Two types of side-wall windows are shown in the detailed plans. If the pen part of the barn runs east and west, a combination of glazed sash with metal ventilating shields should be used on the north wall and wood panel doors hinged to swing up on the south wall. If the pen part is placed north and south wood panel doors may be used on both walls with the expectation that they might be kept open most of the time.

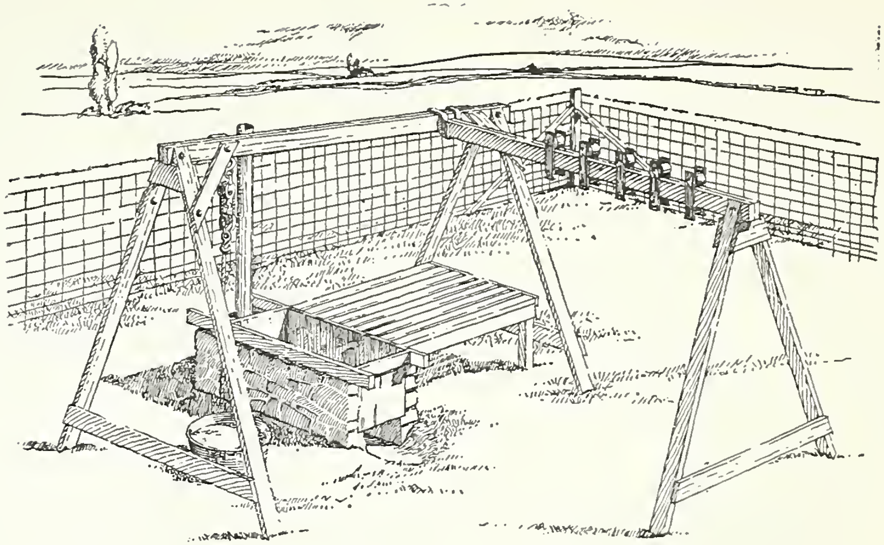
Drawing No. 726–5481 (4 sheets)



SECTION



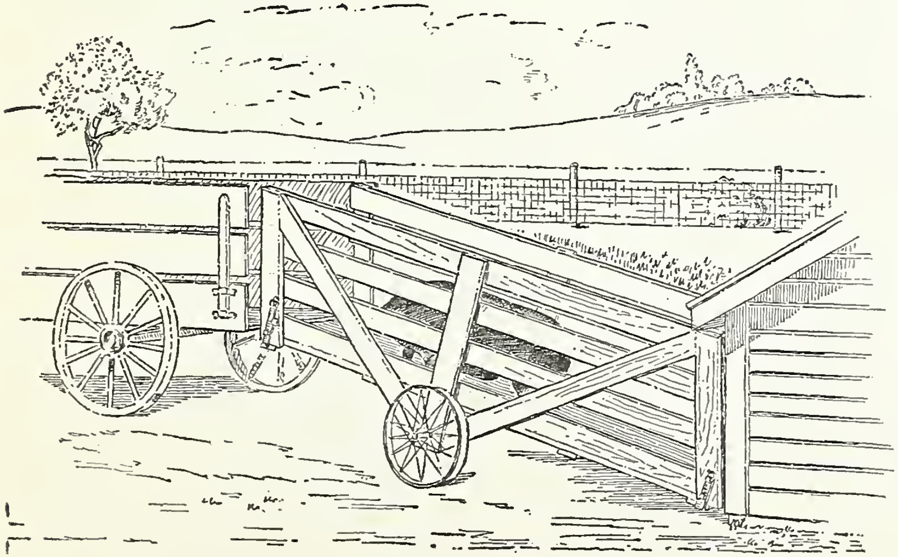
PLAN



MOVABLE LOADING CHUTE

While used chiefly for loading market stock, this chute is convenient for transferring sows and litters from the farrowing house to other quarters or pasture. Wheels and other necessary irons often can be salvaged from old implements.

Drawing No. 7261–5388 (1 sheet)



HOG-SCALDING EQUIPMENT

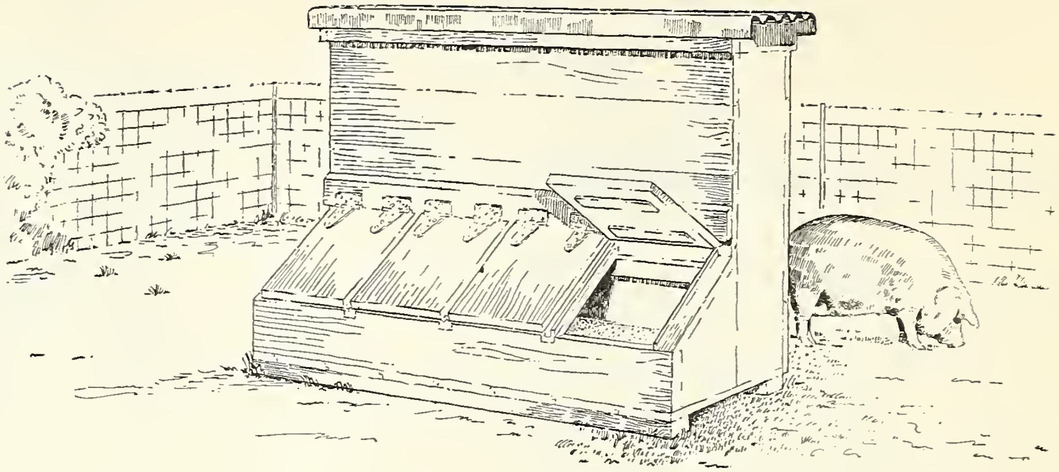
Hogs can be hauled to the site, slung aloft above the tub and bled, dropped into the scalding vat, rolled on the platform for scraping, dressed, and then hung by spreaders on the beam. Several farmers could combine in bearing the expense of construction. Especial care should be taken that proper sanitary conditions are maintained as to the disposal of blood and waste products, particularly in connection with permanent installations. Some of this equipment can be folded up for moving to another farm or for storing. Drawing No. 7261–5063 (1 sheet)

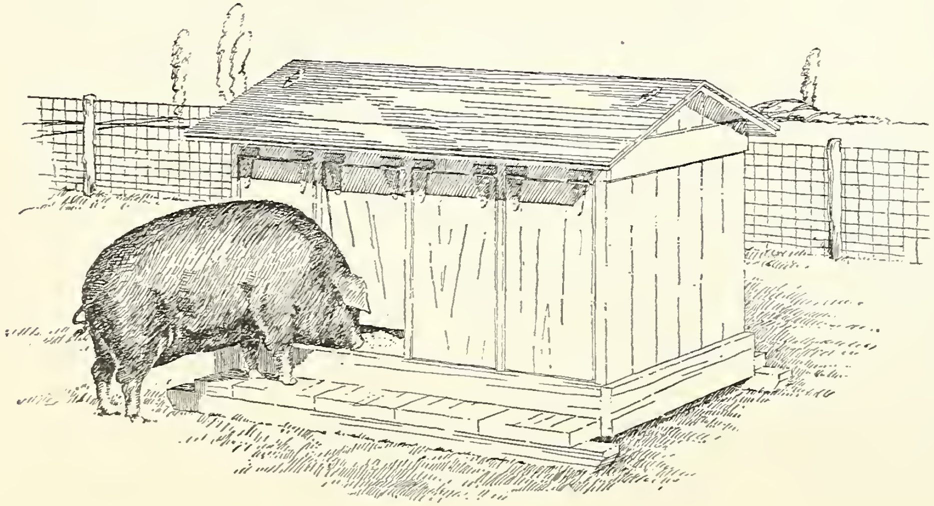
Methods of building permanent types of hog-scalding equipment. (Not illustrated.) Drawing No. 7261–5039 (1 sheet)

HOG SELF-FEEDER ➡

This is a very easily built and cheap self-feeder that prevents waste of feed and clogging of the hopper. At one end is a 1-foot space partitioned off for protein supplement. Several self-closing lids, 15 inches long, are placed on the trough. This feeder will accommodate 12 pigs.

Drawing No. 7261–5482 (1 sheet)

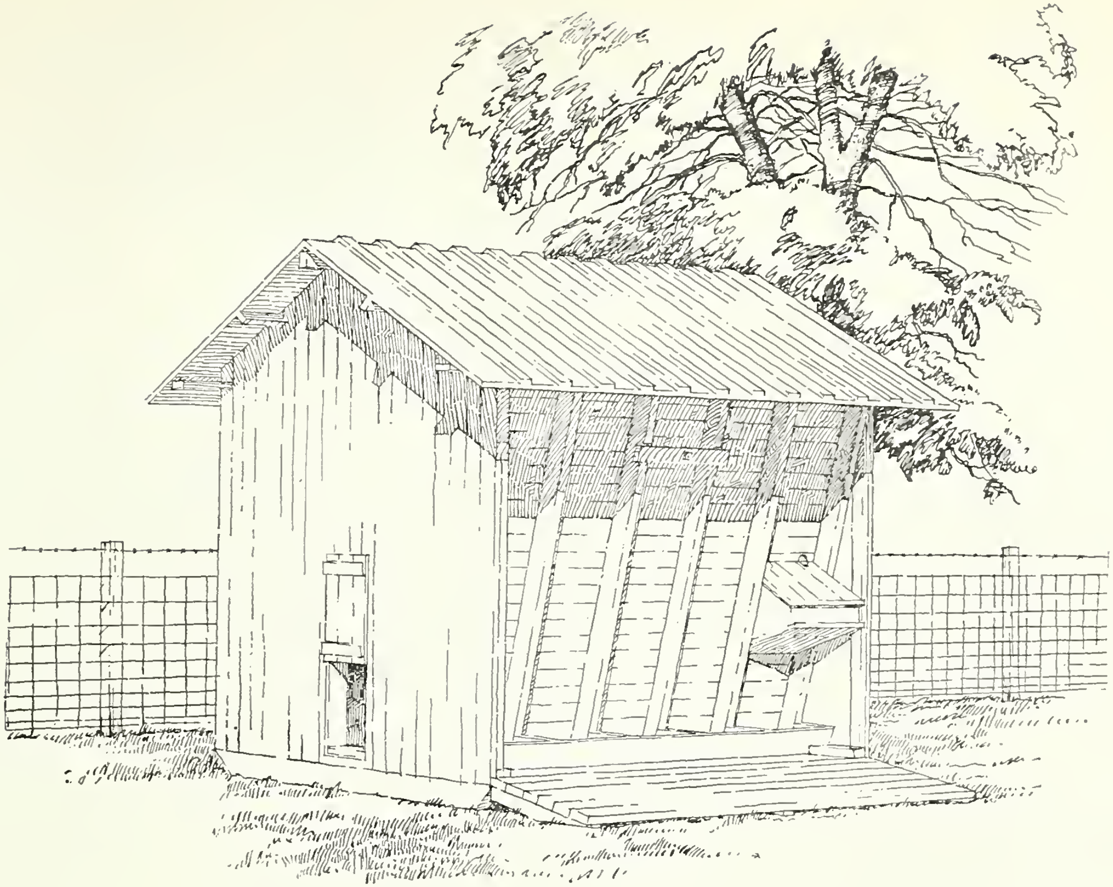


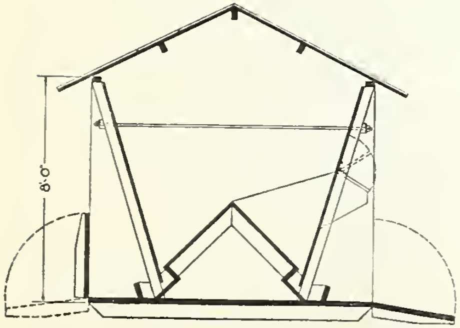


⬅ SELF-FEEDER FOR HOGS

This feeder has space enough for 30 to 40 hogs. The swinging doors prevent excessive waste of feed from wind, rain, and snow. It is of durable construction and has skids for easy moving. The capacity is approximately 15 bushels of grain or 500 to 600 pounds of ground feed.

Drawing No. 7261–5483 (1 sheet)



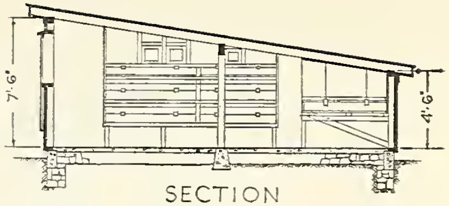


SECTION

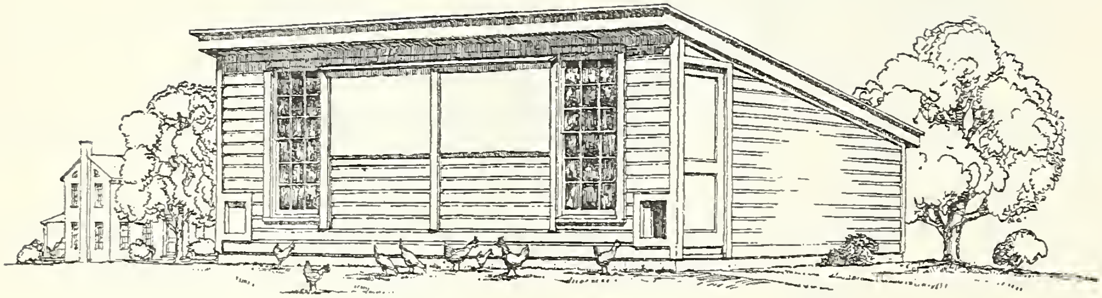
HOG SELF-FEEDER

A portable, large-capacity, hog self-feeder 10 by 10 feet and 8 feet high. The feeder has a tankage bin at one end and feed troughs on each side. Since the feed bins have sloping bottoms, with a door at each end, the space under the bins may be used as a house for small pigs.

Drawing No. 7261–5484 (1 sheet)



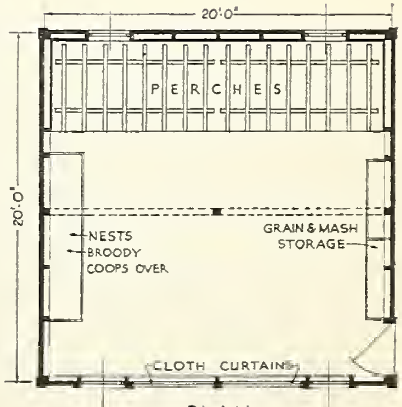
SECTION



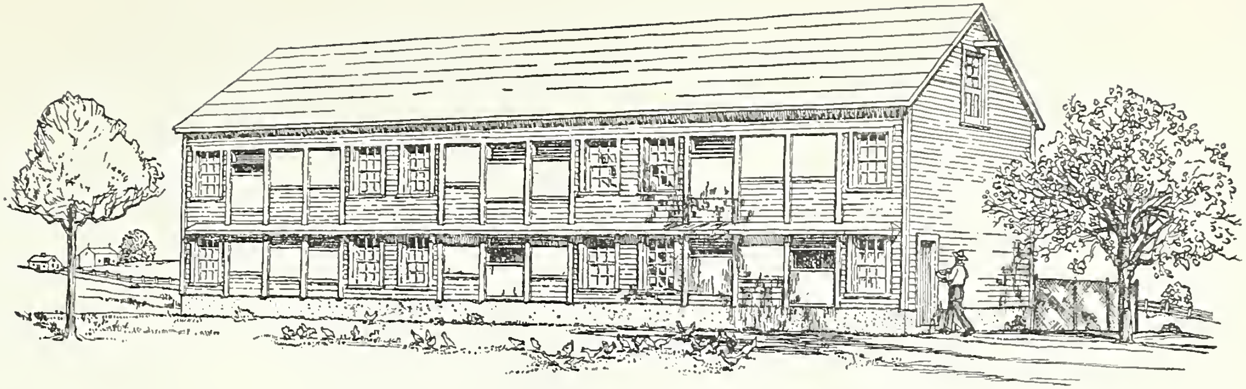
POULTRY HOUSE

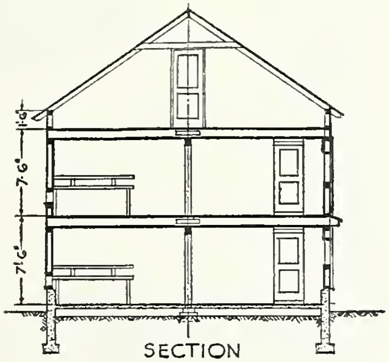
This 20- by 20-foot shed-roof laying house will accommodate 100 to 125 hens. It may be adapted to large flocks by building as many 20-foot sections as needed. The inside walls and roof are ceiled above the roosts as a protection from drafts. Ventilators under the rear eaves admit air to circulate between the rafters to a point in front of and under the dropping board. In warm climates the windows may be replaced with muslin curtains. The under side of the rafters can be stripped with 1- by 4-inch slats or wire to hold straw or fodder for insulation.

Drawing No. 727–5131 (3 sheets)



PLAN





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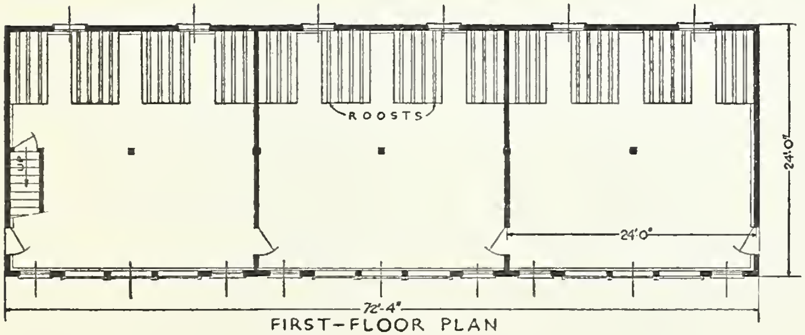


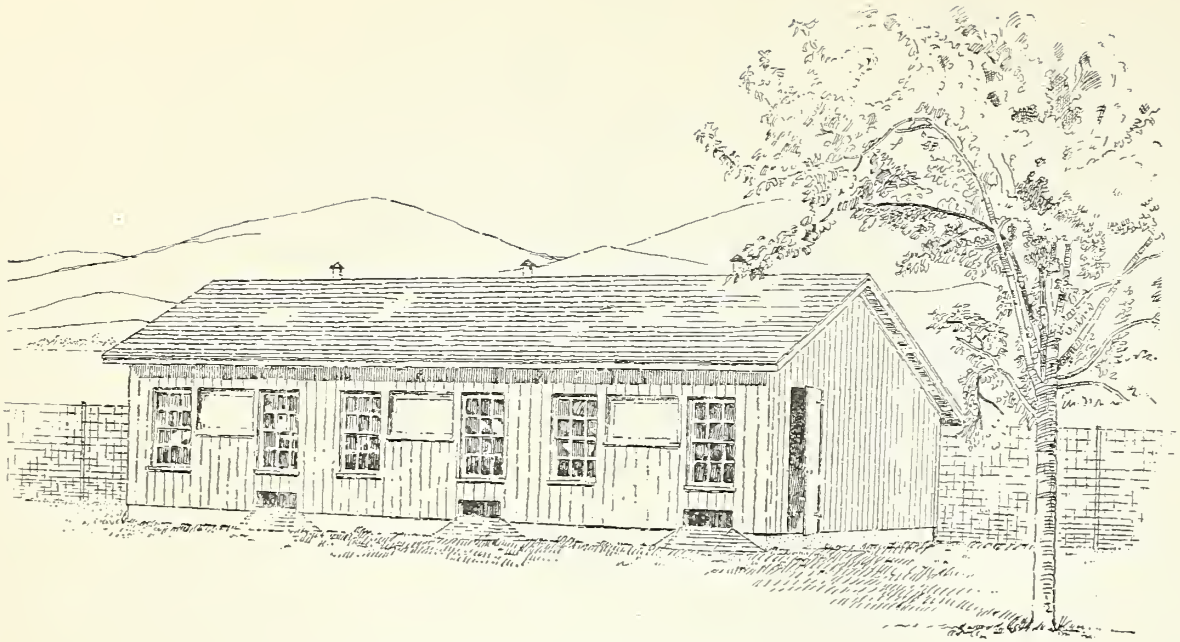
FIRST-FLOOR PLAN

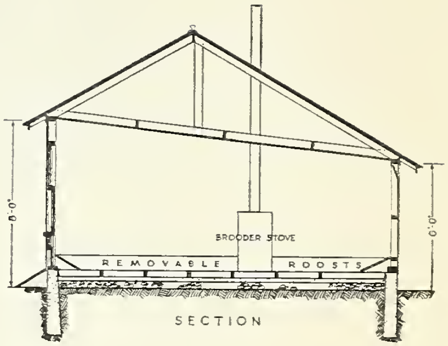
POULTRY HOUSE

A two-story poultry house may be desirable where only a little land is available or it is high in value. The cost per bird is considerably less than in a one-story structure and the labor of caring for the flock is less.

This house contains six pens holding a total of 850 to 1,000 birds and has a large attic for feed storage and workroom. A cellar or pit could be provided for a heating plant. The pens are deep enough to prevent drafts at the roosts from the screened openings. Vents between the floor joists aid in keeping the floor dry.

Drawing No. 727–5133 (5 sheets)





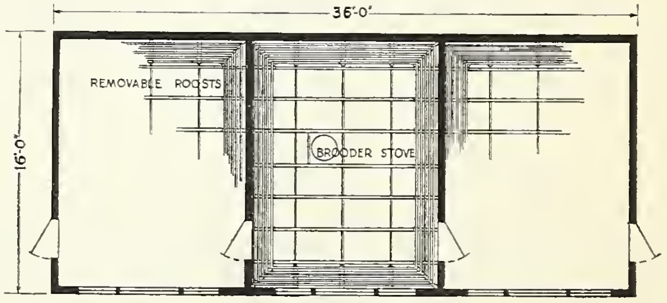
SECTION

BROODER HOUSE

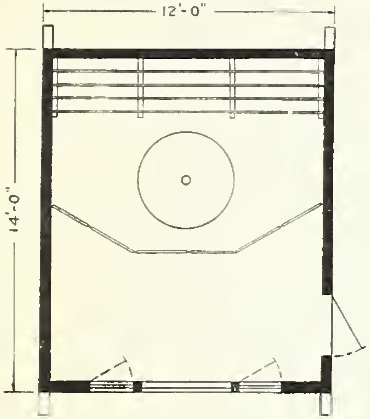
The plans for this house show details for the safe installation in each unit of a brooder stove and hover for 500 chicks. The outside walls are tightly sided and the ceiling is lined with ½-inch insulation board to lower the heat loss. The inside of the exterior walls may be insulated with the same material. Sufficient ventilation during cold weather will be provided through the muslin-covered openings. In warm weather the windows may be opened or replaced with muslin and the rear vents opened.

A sanitary floor of frames covered with hardware cloth is recommended to be used above the concrete floor to keep chicks off the droppings. The house may be used for fattening pens or laying units. Details are shown of roosts which may be put in when the birds are old enough.

Drawing No. 727–5291 (3 sheets)



PLAN



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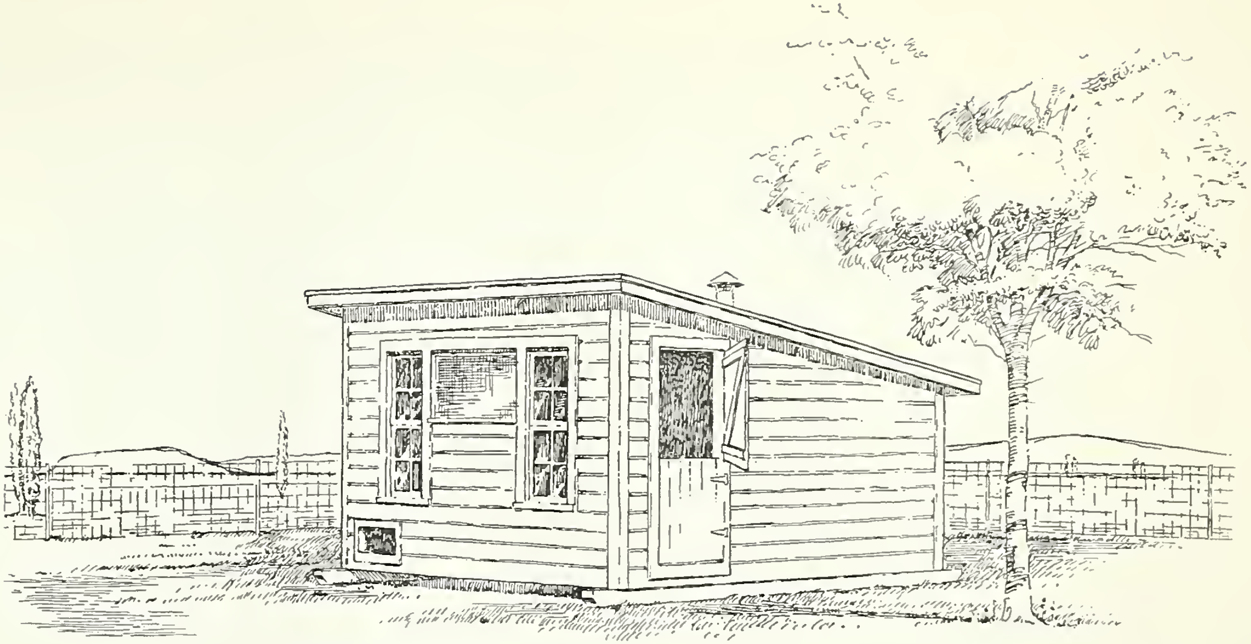
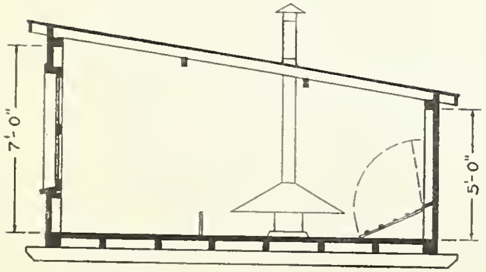


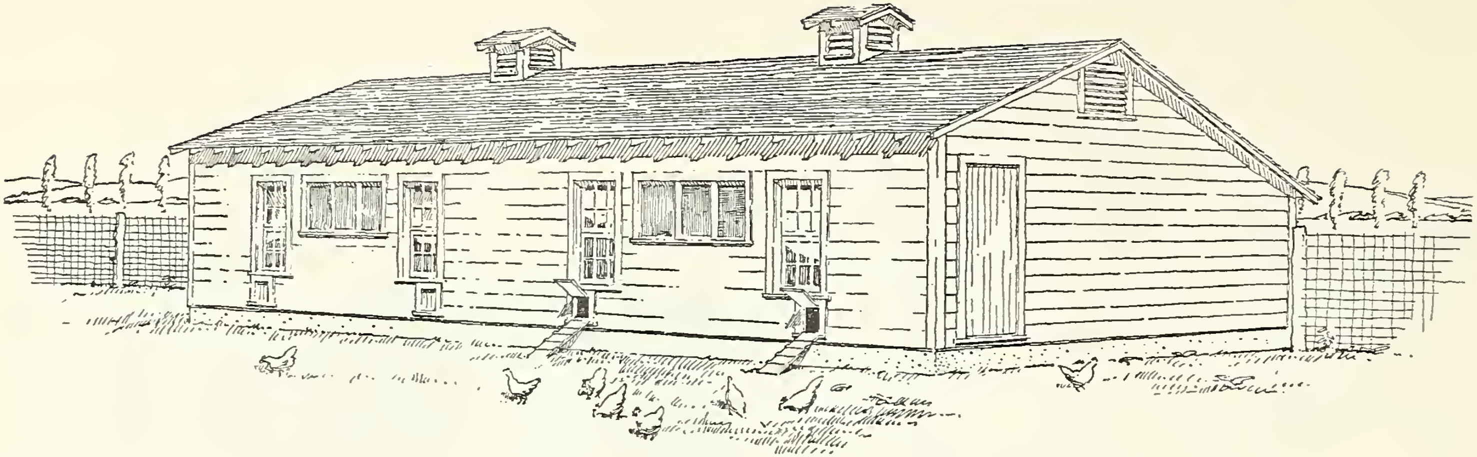


SECTION

PORTABLE BROODER HOUSE

This brooder house on skids may be hauled about to provide clean ground for the 500 baby chicks. Ventilation is provided by vents in the rear wall and the muslin-covered openings. The windows may be replaced by muslin, and, by installing roosts, the house may be used for fattening or laying stock.

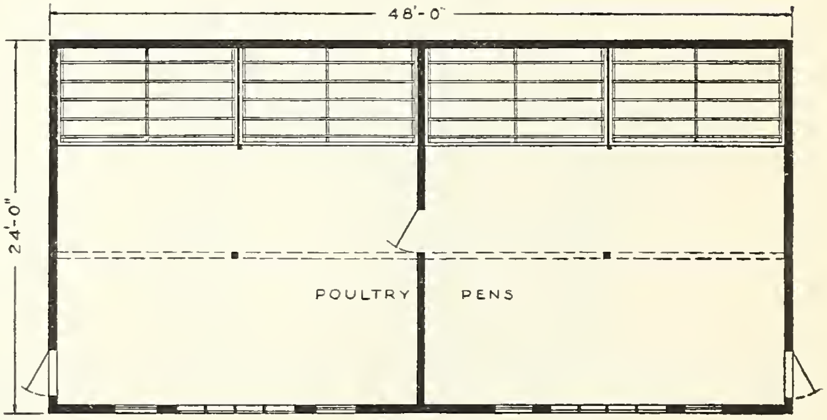
Drawing No. 727–5431 (1 sheet)



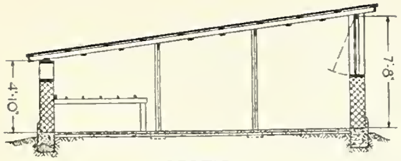
LAYING HOUSE

This two-pen, 24- by 24-foot house has room for 150 to 200 hens. It represents a type common in the Pacific Northwest east of the Cascade Mountains. A feed room 10 feet wide at one end of the building would be desirable. The house may be built four units long; if more space is required, another house should be built so that pullets may be kept in one, and hens in the other. Walls and ceiling are insulated with shavings and provision is made for a heating flue under the floor. This house is practically identical for the three Northwestern States except for minor interior details; the individual in a given State should write his own extension service for the plans of that particular State.

Drawing No. 727–5485 (2 sheets)



PLAN



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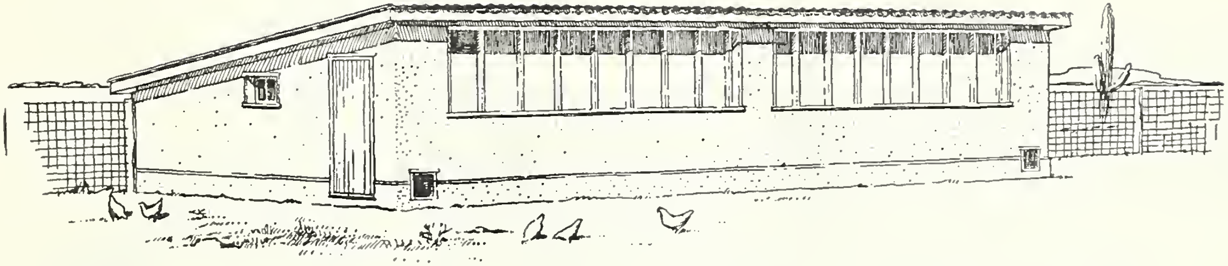
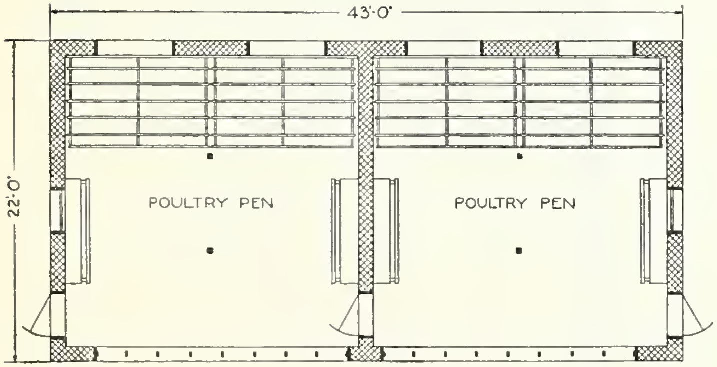


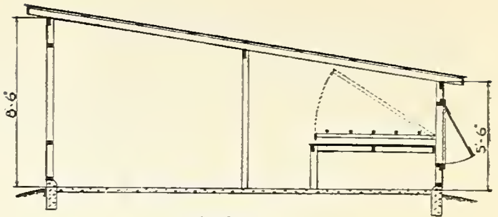
ADOBE LAYING HOUSE

Adobe poultry houses are common throughout the Southwest. They make very comfortable quarters if the roof is properly insulated. Local practice varies as to enclosing the front openings with wire, or with muslin on frames, depending on the amount of air or light needed. The lower part of the walls on the inside should be tarred or plastered to prevent the hens from picking straw out of the adobe brick.

Drawing No. 727–5487 (1 sheet)



PLAN



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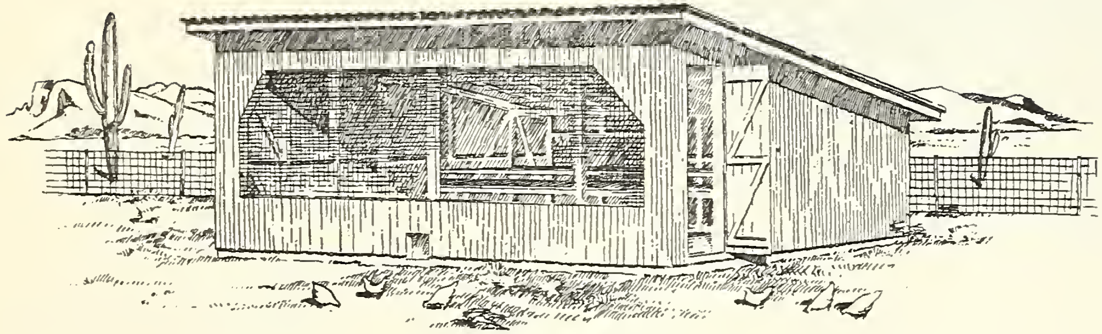
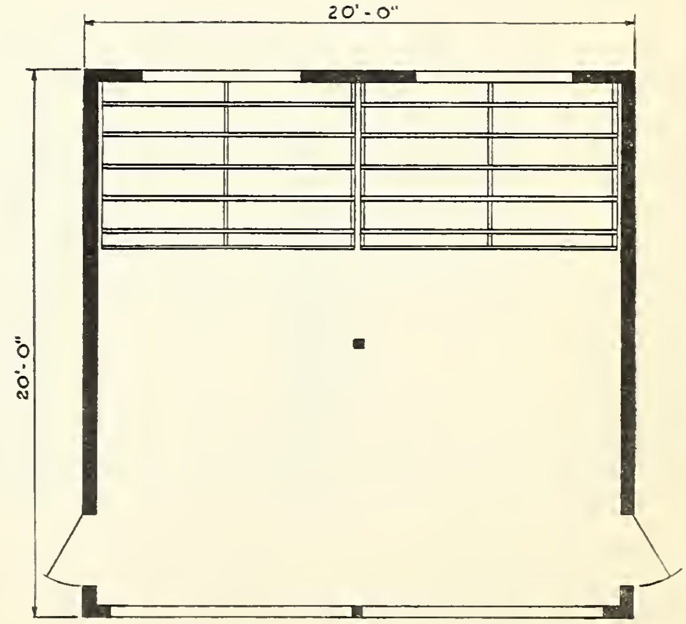


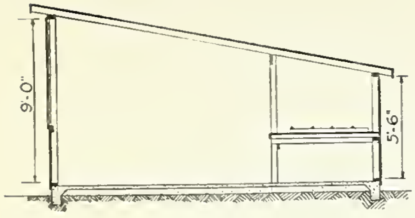


PLAN

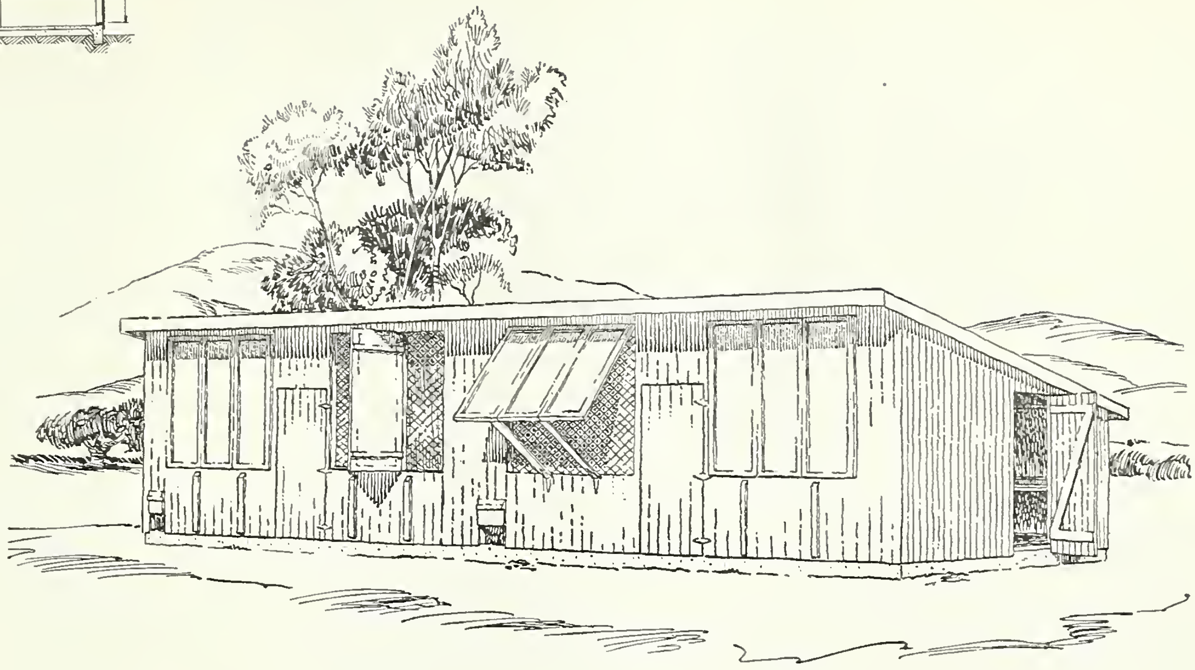
METAL LAYING HOUSE

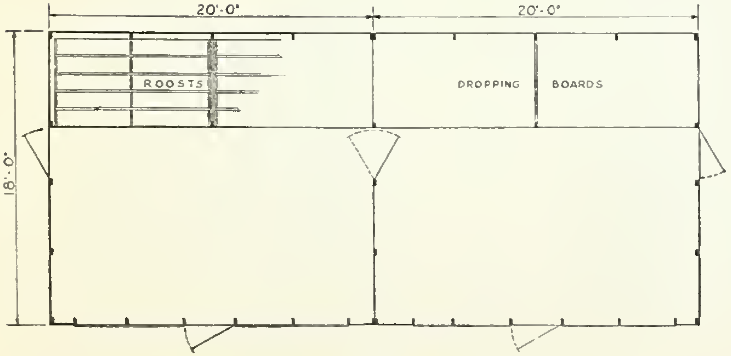
This house has proved satisfactory for conditions in Arizona at altitudes ranging from 2,000 to 3,500 feet. In the higher sections of the State houses of wood, adobe, or stone should be used as a protection from cold. A feature of the metal house is that the blue bug and other insects are more easily controlled.

Drawing No. 727–5488 (1 sheet)



SECTION



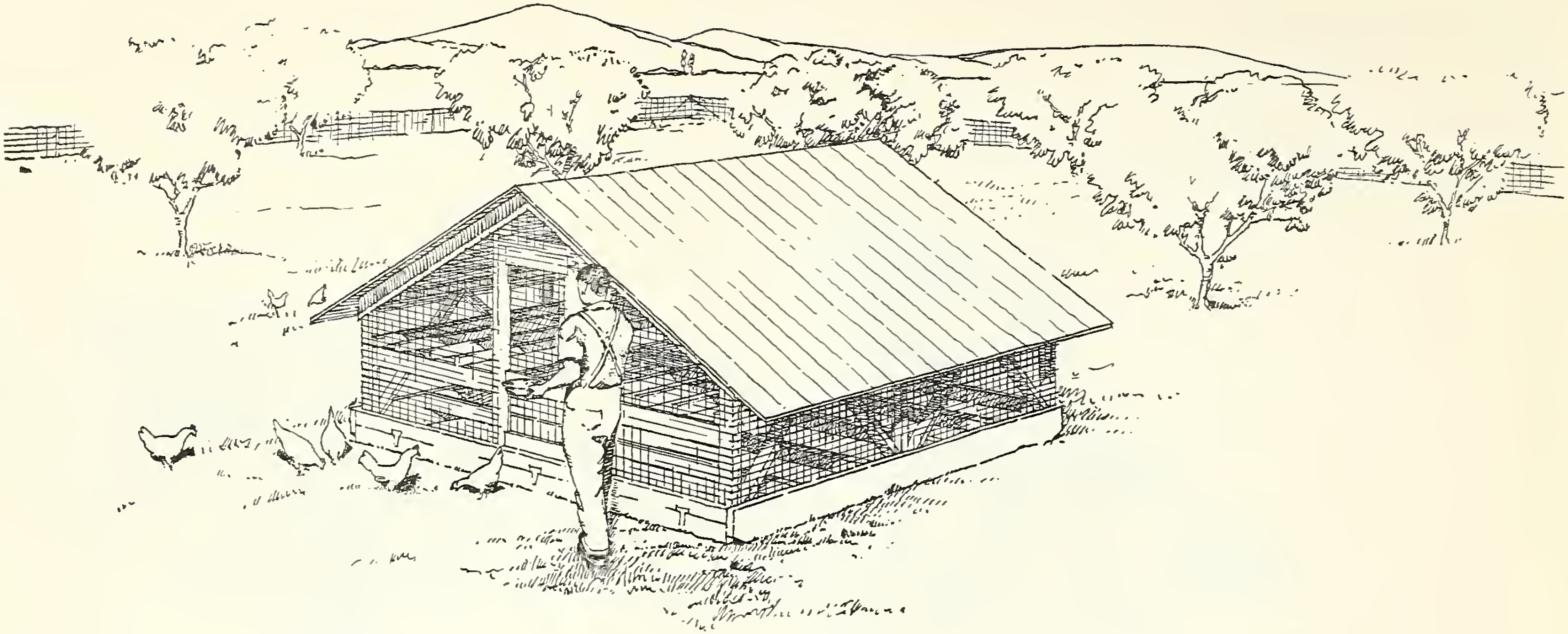


PLAN

POULTRY HOUSE

This house has been designed to meet requirements of poultry keepers operating on a commercial scale. For houses over 80 feet long an overhead carrier track may be installed in front of the dropping board to facilitate cleaning and feeding. In shorter lengths the house is suitable for the small farm flock.

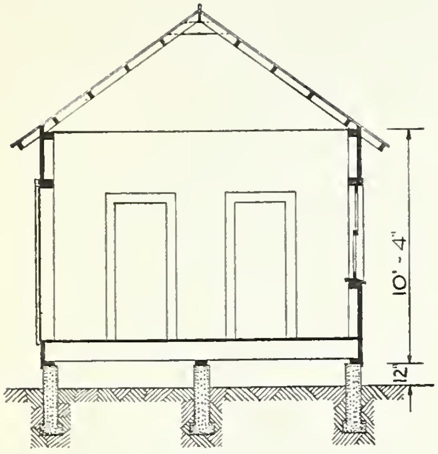
Drawing No. 727–5489 (3 sheets)



SUMMER RANGE SHELTER

This airy roosting shelter is not expensive and is easily moved to clean ground. It can be closed securely for night protection against predatory animals and is sufficiently weatherproof for the warm months. In case of necessity, the wire sides might be covered with canvas to provide shelter until early winter.

Drawing No. 7271–5400 (1 sheet)



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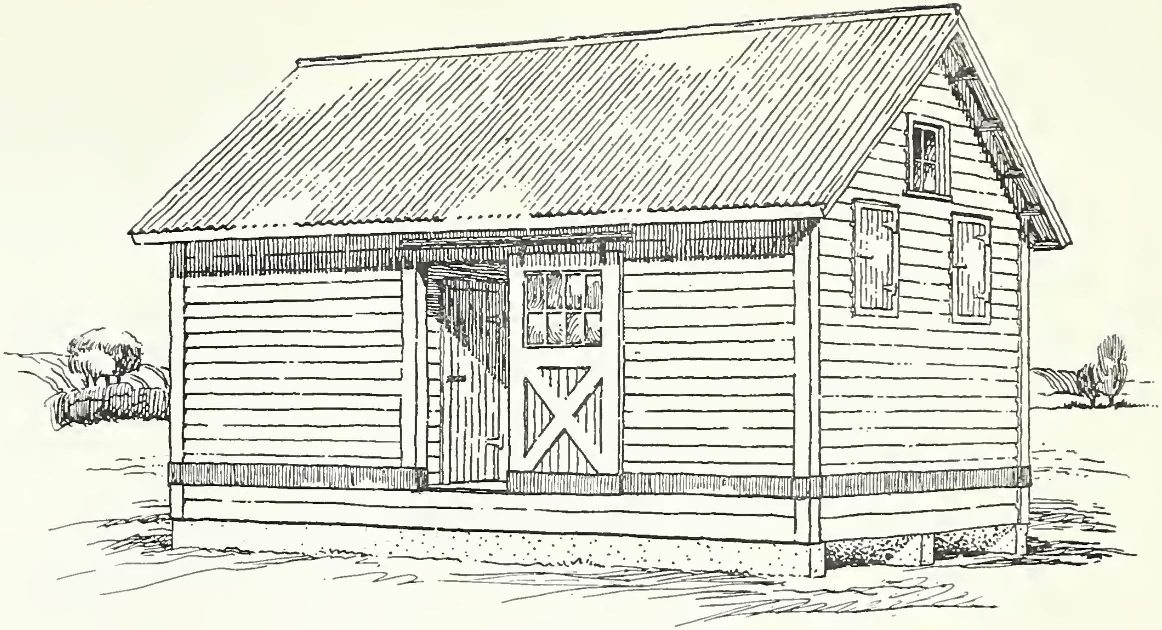
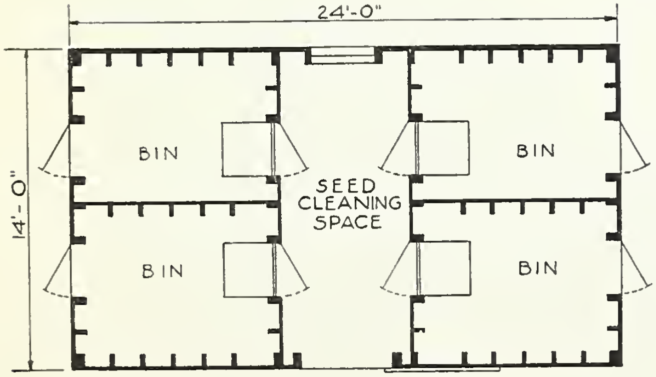


FOUR-BIN GRANARY

This stationary granary is suitable for the farmer who has only a few thousand bushels of grain. The cross walls stiffen the building and provide four bins which may be filled through the outside doors. Each bin will hold about 450 bushels and in emergency about 780 bushels may be stored in the space intended for cleaning seed. Drawing No. 732–5528 (1 sheet)



PLAN

Note.—Drawings 5528, 5529, 5530, 5531, and 5532 are illustrated as figures 2, 6, 12, 12, and 14 respectively in United States Department of Agriculture A. A. A. Commodity Information Series 38–Wheat–1, while Drawing 5533 and 5535 are shown as figures 4 and 6, respectively in 38–Corn–1.

Stationary Granary

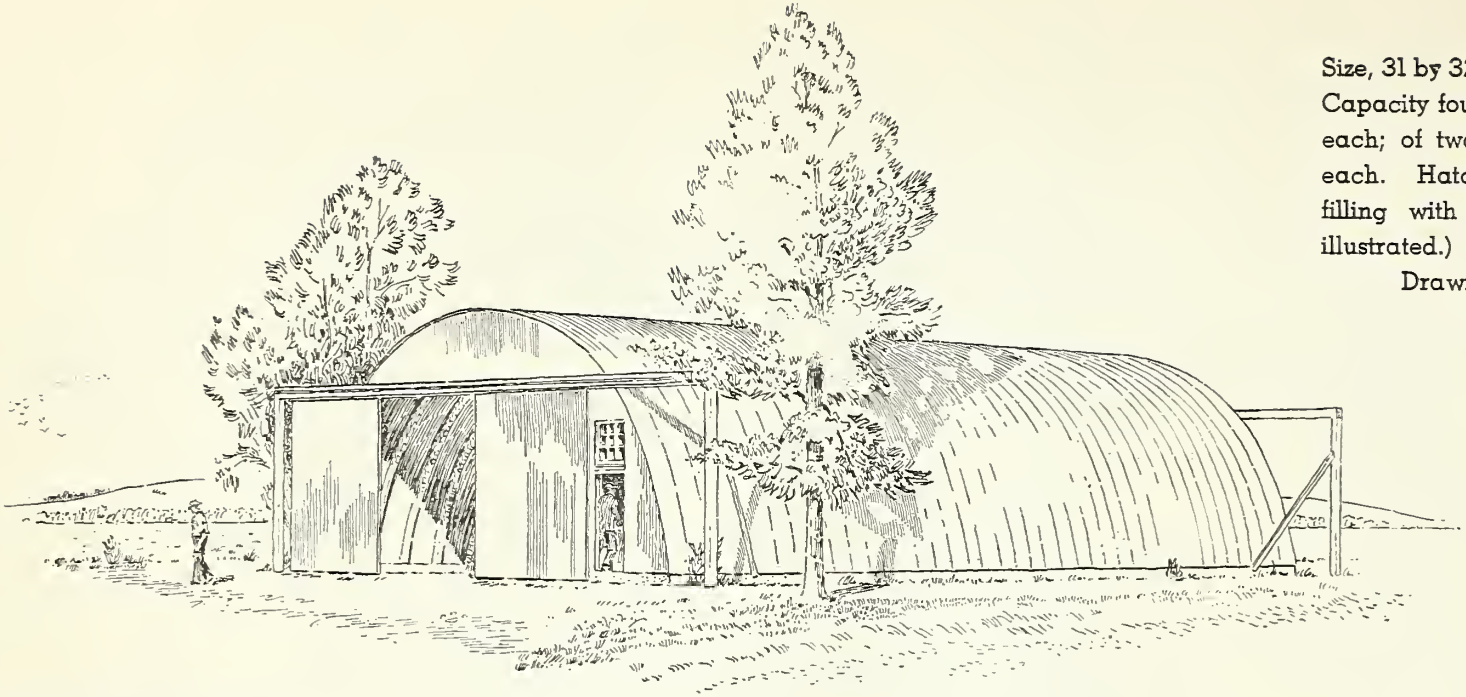
Size, 31 by 32 feet with 11-foot driveway. Capacity four lower bins 1,250 bushels each; of two upper bins 700 bushels each. Hatchways in gable roof for filling with portable elevator. (Not illustrated.)

Drawing No. 732–5529 (1 sheet)

Movable Bins

Size, 10 by 10 feet; on skids. Capacity 500 bushels. (Not illustrated.) Drawing No. 732–5530 (1 sheet)

Size, 12 by 14 feet; on skids. Capacity 1,000 bushels. (Not illustrated.) Drawing No. 732–5531 (1 sheet)

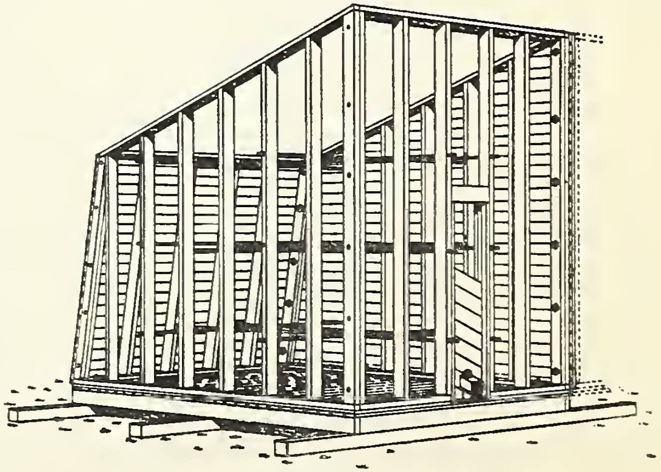


STORAGE SHED

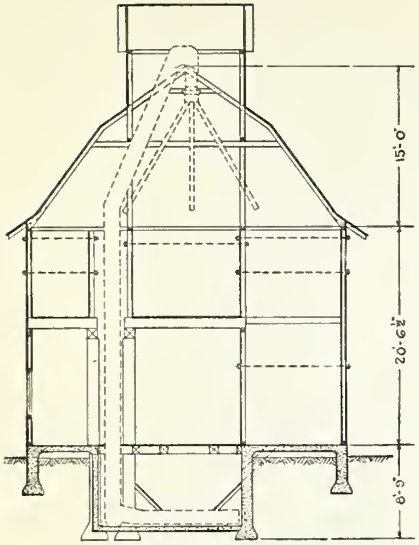
This semicircular shed was developed primarily for housing combines and other large machines or for the temporary storage of grain. Emergency storage sometimes is necessary because of an unusually large crop, an abnormal market situation, loss of permanent storage, lack of trucks, or other circumstances.

The shed can be adapted for safe grain storage by building bins like the one shown, along the inside walls, leaving a 12-foot drive through the center. The bins may be permanent or in knock-down sections; this latter method would allow storage of the sections and use of the building for implements when not needed for grain. Bins intended for other than temporary storage should be carefully ratproofed.

Drawing No. 732–5145 (2 sheets)



REMOVABLE BINS



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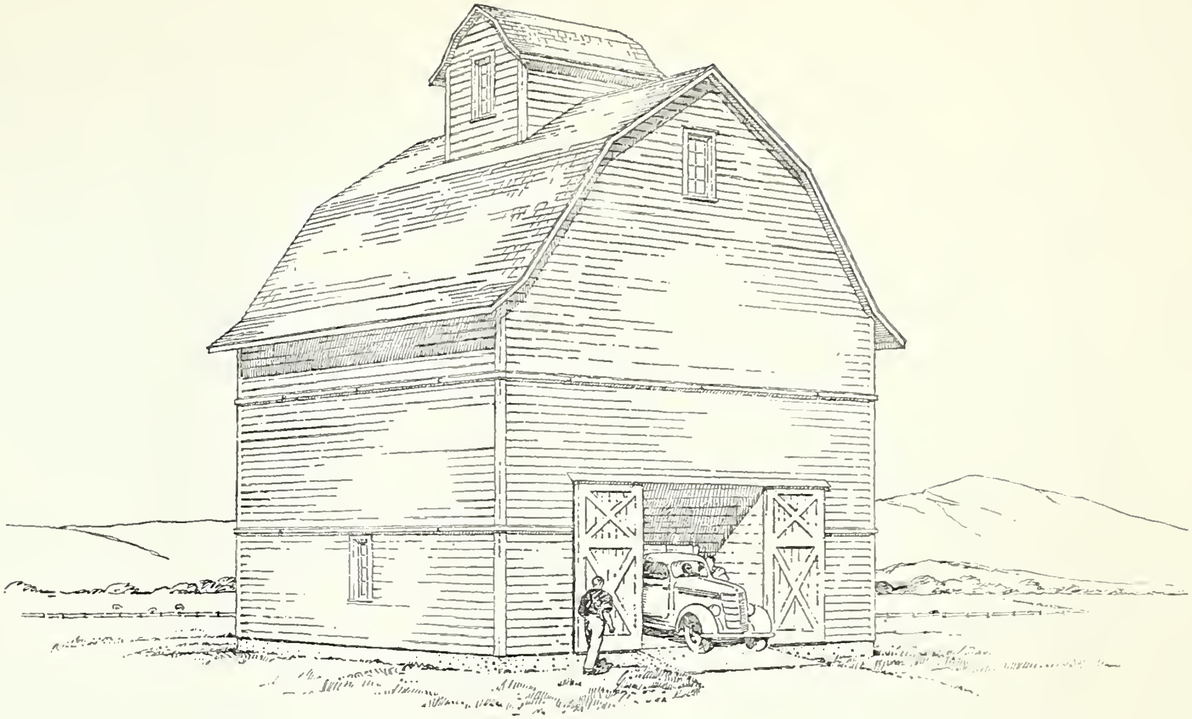
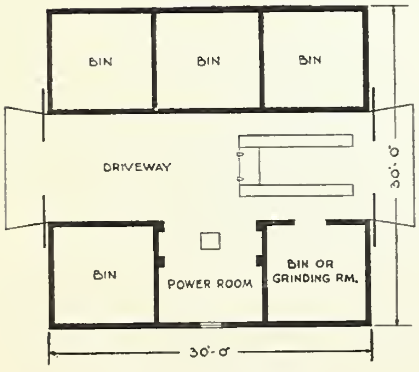




PLAN AT DRIVEWAY

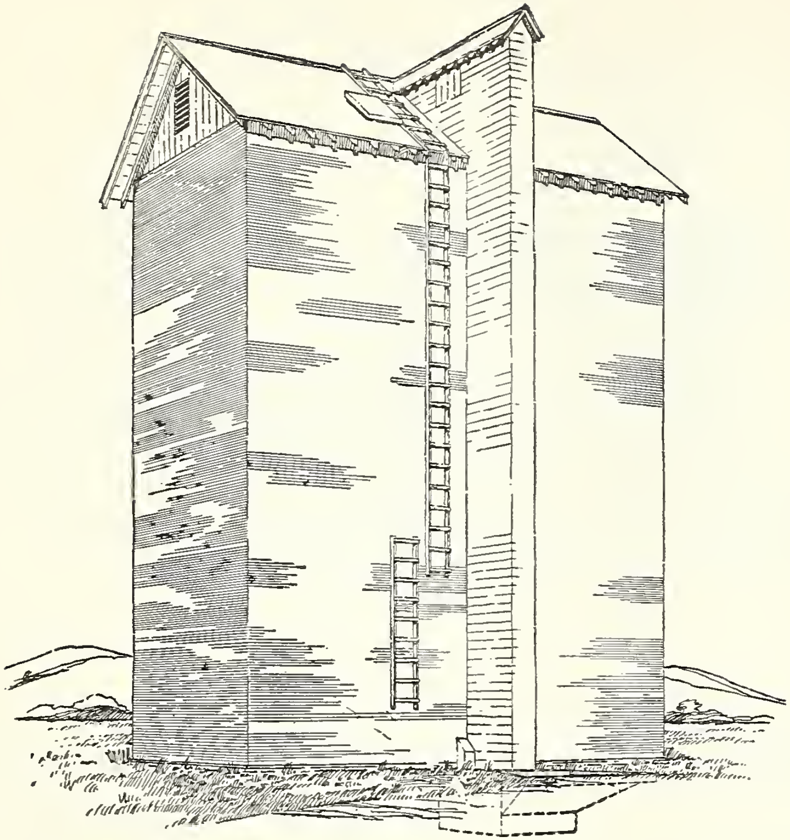
GRAIN ELEVATOR

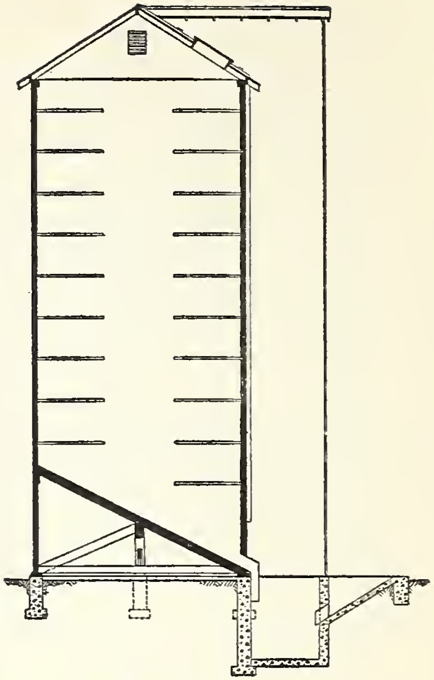
This 10,000-bushel elevator has 2- by 6-inch stud walls covered with siding and reinforced with steel rods. It is adapted to farms where grain is hauled in wagons. The 10-foot center driveway provides for a log dump or lift. The nine bins of different capacities may be filled from an elevator and permit shifting the grain, should it heat.

Drawing No. 732–5325 (3 sheets)

Grain Elevator. This elevator is similar in appearance and capacity to that described above, but is of crib construction covered with corrugated metal. A wide central driveway with a high ceiling permits the use of 10-ton trucks for hauling grain. Grain may be transferred to or from the 10 bins, with little hand labor, by means of the inside dump and elevator. Space is provided for cleaning and grinding machinery. (Not illustrated.)

Drawing No. 732–5532 (3 sheets)





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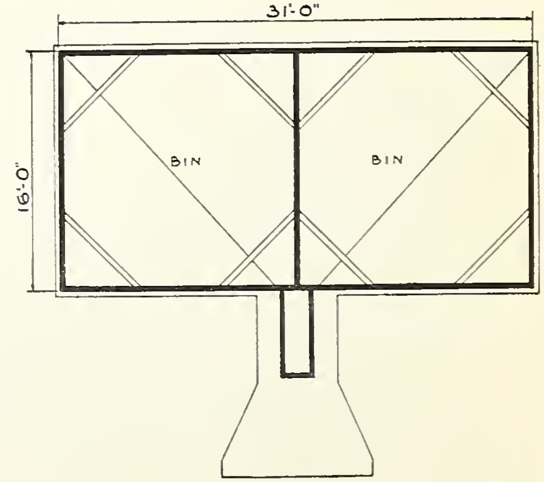
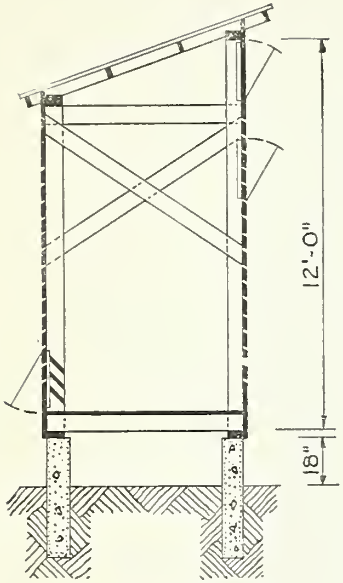


PLAN

GRAIN ELEVATOR

Crib construction with sheet-metal covering. Two bins, total capacity about 11,500 bushels. No working space or engine room inside of building.

Drawing No. 732-5093 (2 sheets)



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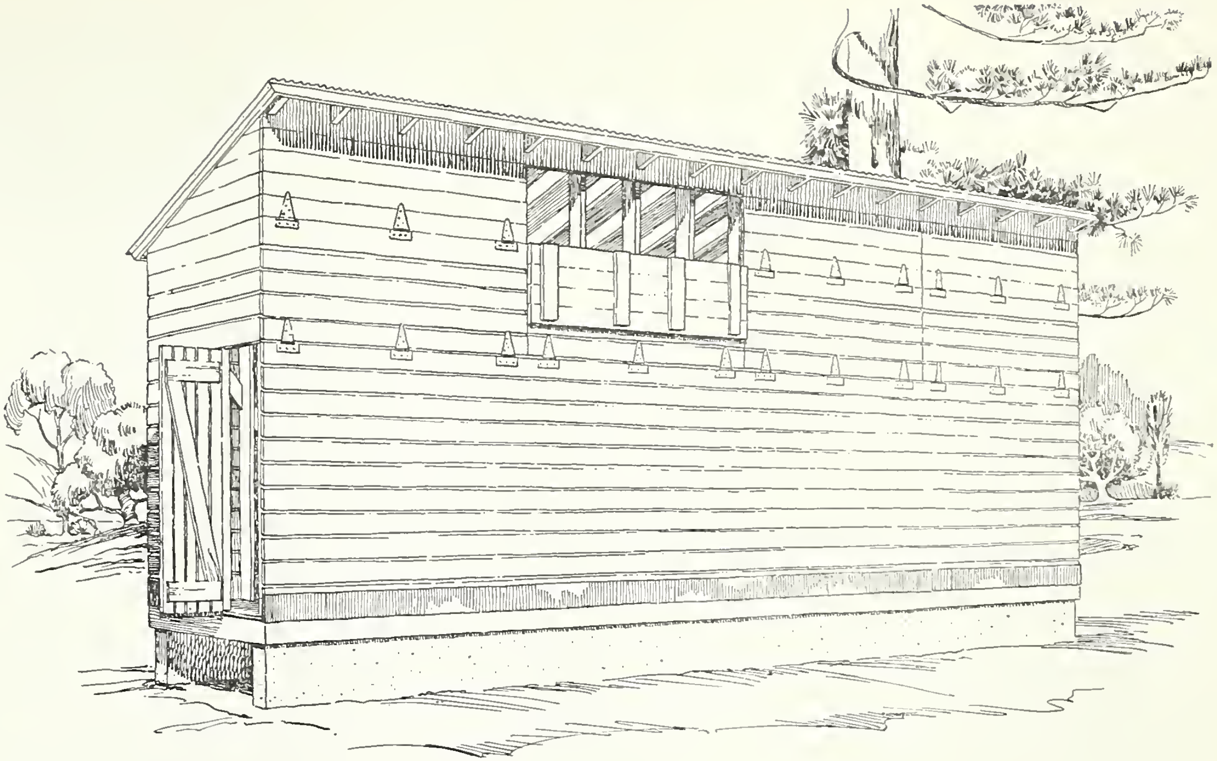
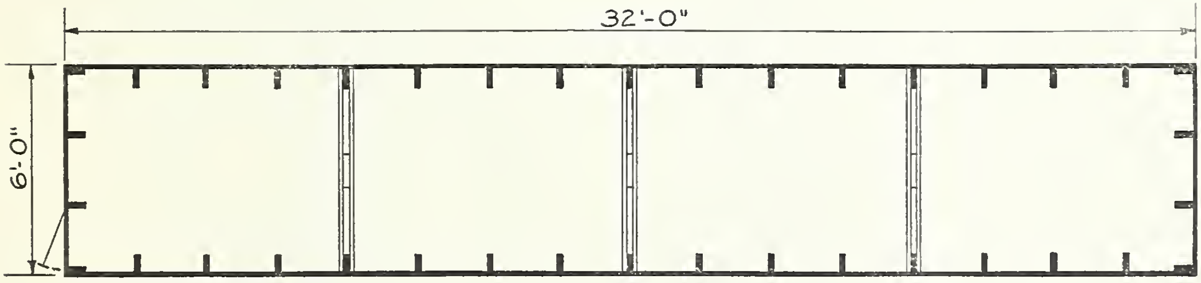




PLAN

CORNCRIB

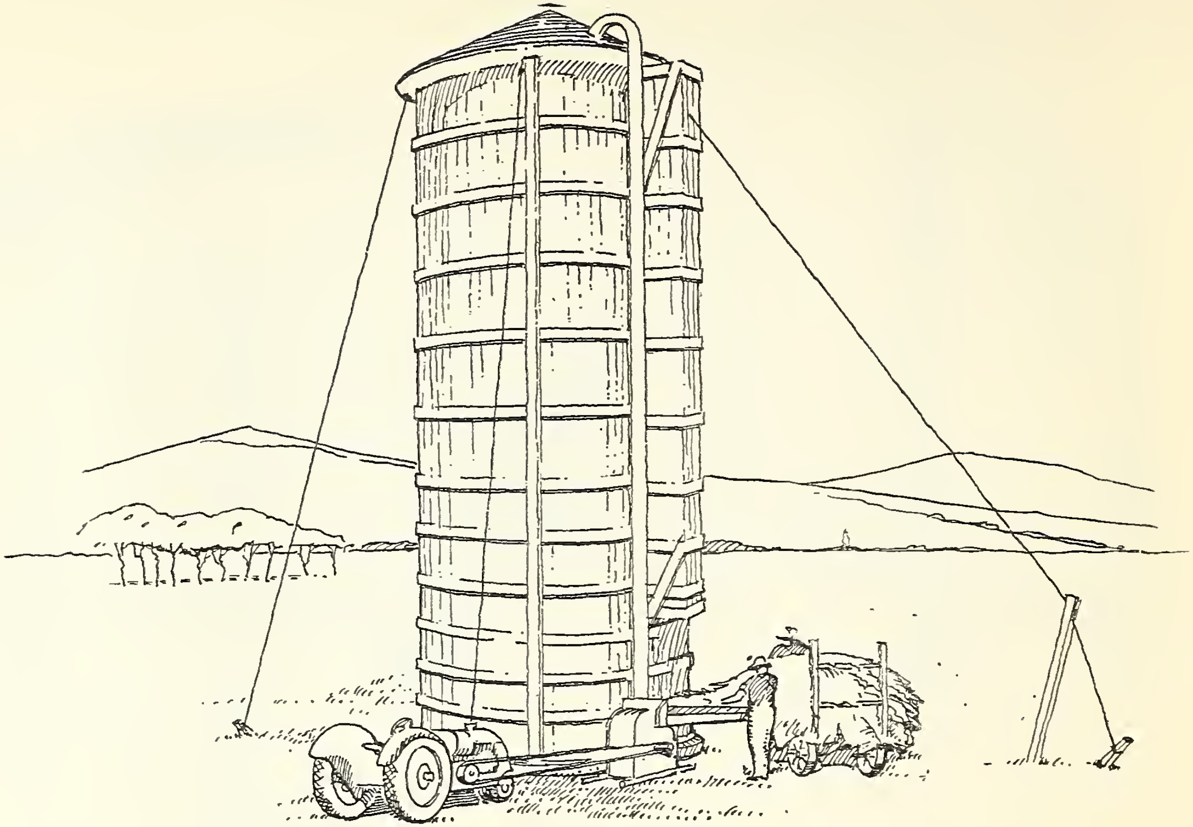
This crib is high and narrow to take best advantage of drying winds. The capacity for 32-foot length is about 700 bushels of ear corn. The drawings show an effective method of rat-proofing. Wider cribs are permissible in dry localities therefore this plan will vary in different States.

Drawing No. 732–5533 (1 sheet)

Combined Crib and Granary

Size 27 by 32 feet; crib on one side of 11-foot driveway and granary on other side. Capacity, 900 bushels ear corn and 2,000 bushels small grain. Both of these 8-foot wide bins could be built for storage of corn only or grain only. (Not illustrated.)

Drawing 732–5535 (1 sheet)

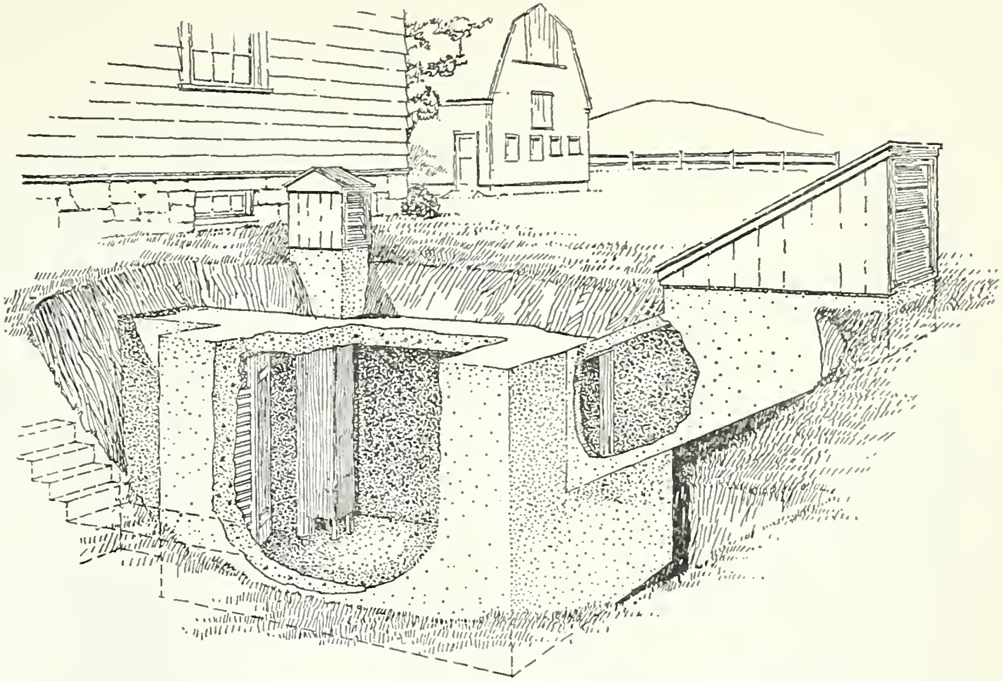


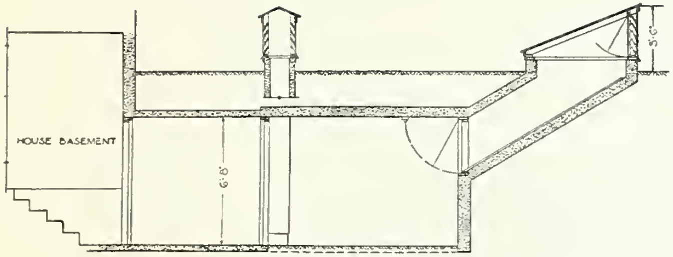
WOODEN-HOOP SILO

Home-made silos of various types are popular because of the low cash cost. Of the above-ground types the wooden hoop is popular. It is easy to erect and reasonably durable. Materials are readily procurable and, when properly erected, the walls are tight, smooth, and strong. A list of materials for various diameters and heights is given on the plans.

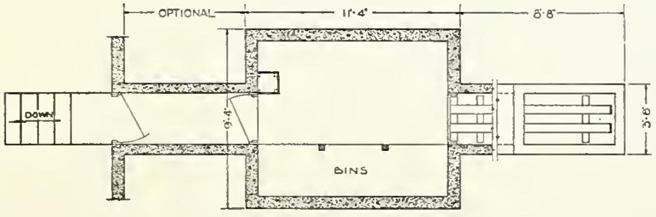
The location of the silo is important from the standpoints of filling and feeding convenience and the sanitary requirements as to distance from the milk house and milking barn.

Drawing No. 733–5490 (3 sheets)





LONGITUDINAL SECTION

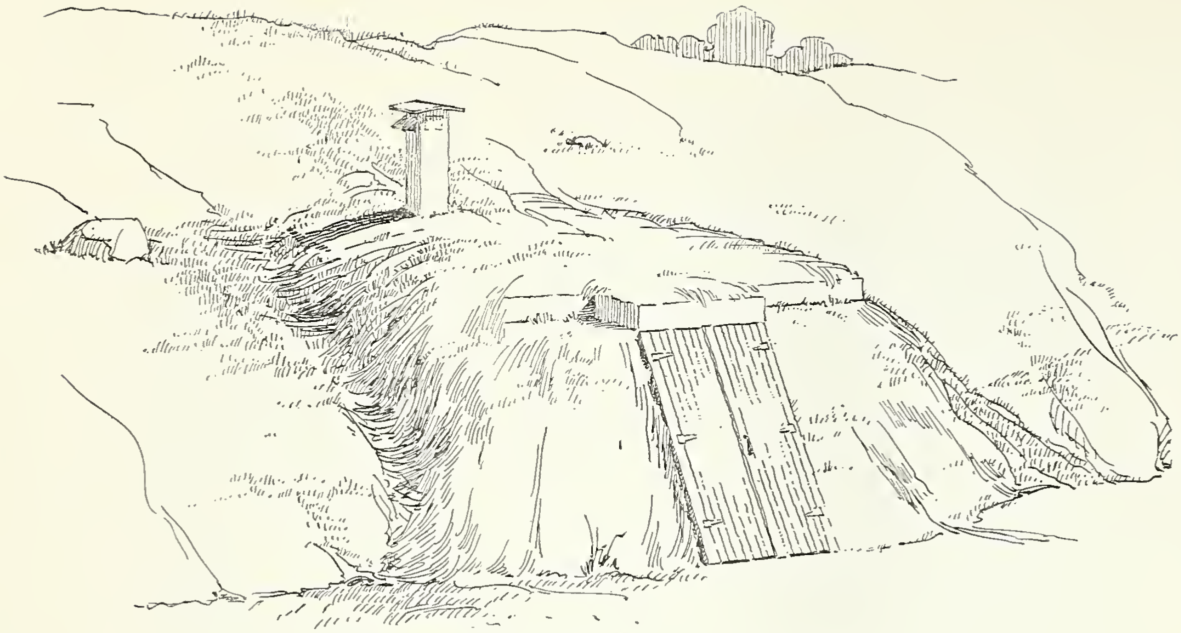


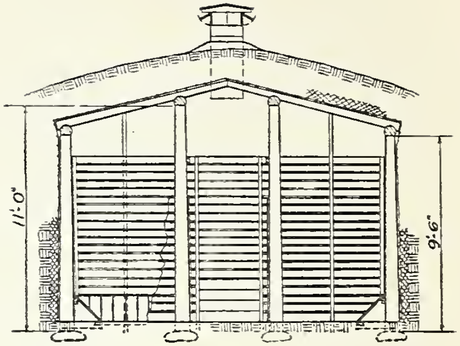
PLAN

ROOT CELLAR

This small outside cellar provides better conditions for storage of fruits and vegetables than are usually found in house basements. It may be reached through a short tunnel from the basement, a special convenience in severe winter weather. A chute facilitates filling the cellar from the outside and serves as a ventilation flue. A free circulation of air should be provided during cool fall nights, but when the weather becomes cold insulating pads should be placed in the flues.

Drawing No. 734–5330 (1 sheet)



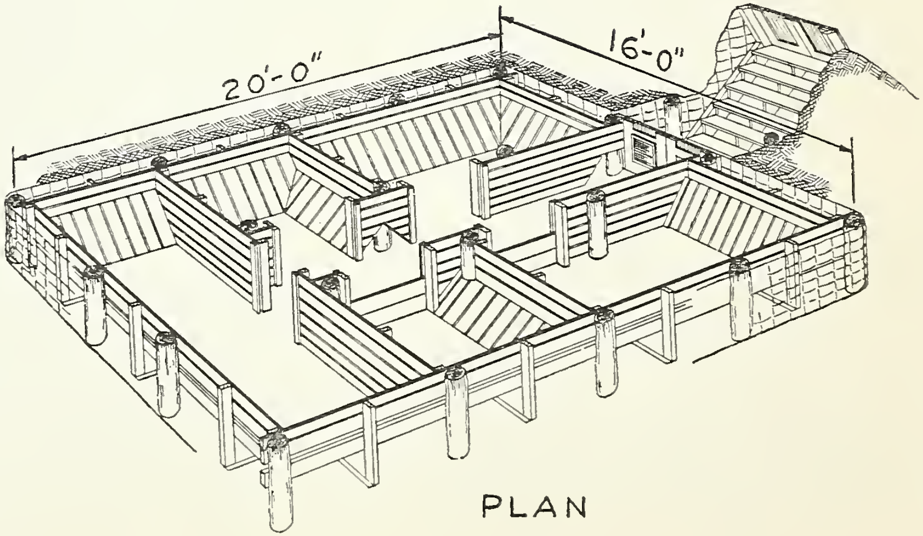


SECTION

ROOT CELLAR

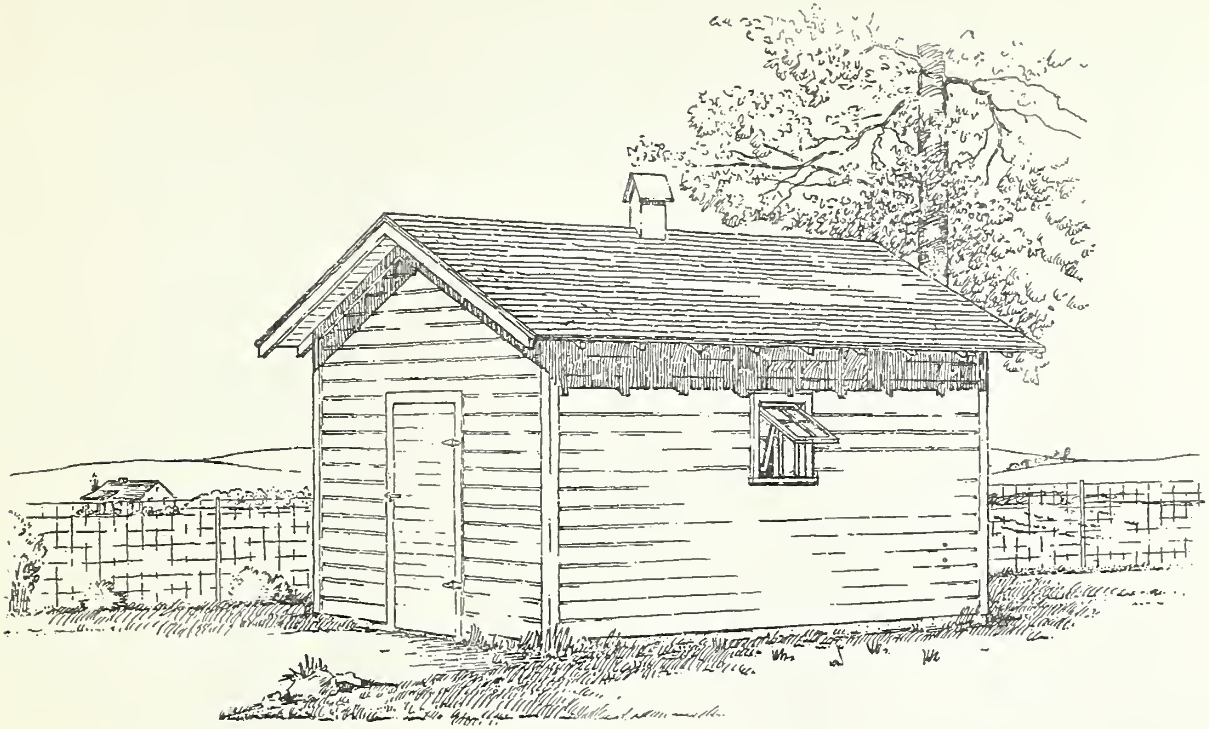
Where logs are plentiful and cash expenditures must be kept low, this type of construction, with local materials and labor, provides cheap storage. It may be built entirely below ground or partly above. The covering of straw and earth is good insulation. Air-circulation spaces back of the bin aid in cooling the cellar by night ventilation during warm periods.

Drawing No. 734–5491 (1 sheet)



PLAN

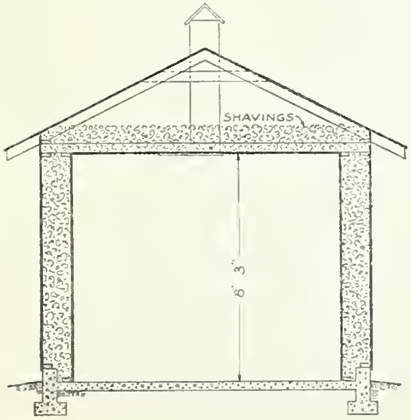
ABOVE-GROUND POTATO HOUSE



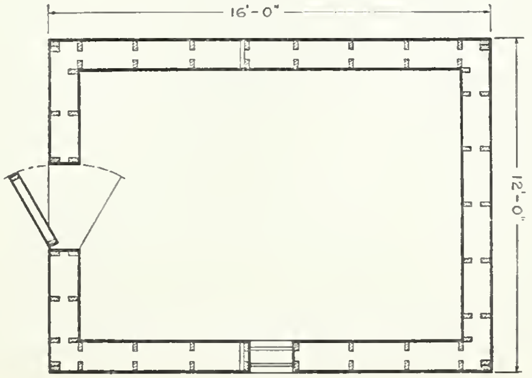
Insulated, above-ground root storages cost more to build than the dugout type; also, unless carefully built and insulated, they do not furnish so good storage as does the properly ventilated cellar type. This one is practical where below-ground storages are not feasible because of poor drainage conditions.

The double-studded walls and the ceiling may be insulated with shavings or other readily available loose material. Double windows or single windows with board shutters may be used. Board shutters have the advantage of shutting out light that is sometimes detrimental to the stored produce. In the North during very cold weather some heat may be needed, in which case an ordinary stove can be used. Capacity: 550 to 600 bushels.

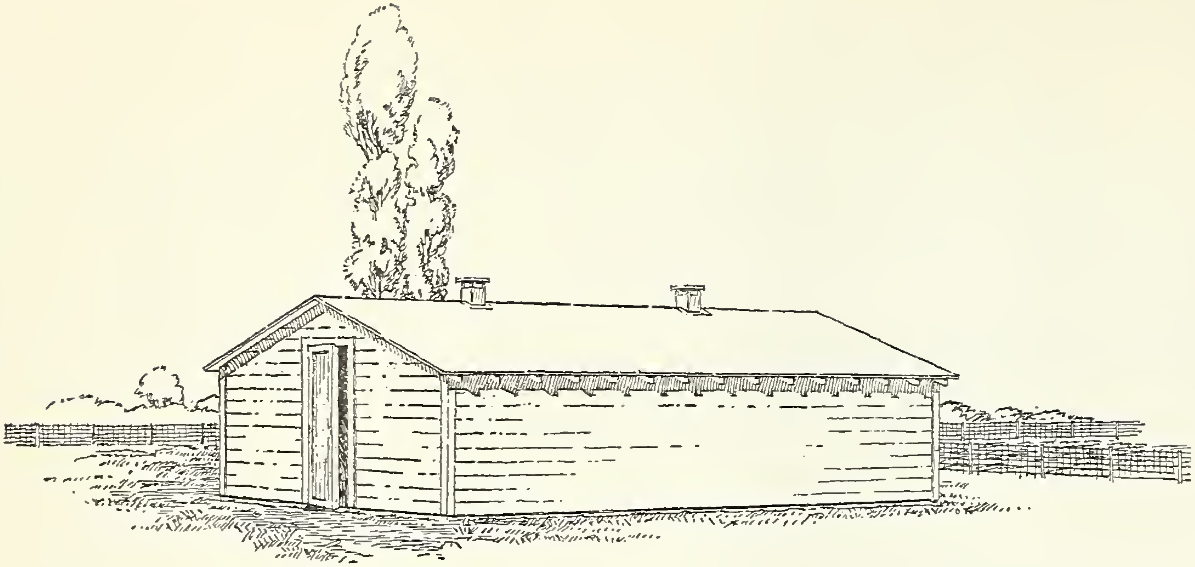
Drawing No. 734–5492 (1 sheet)

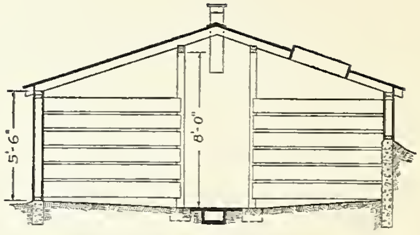


SECTION



PLAN



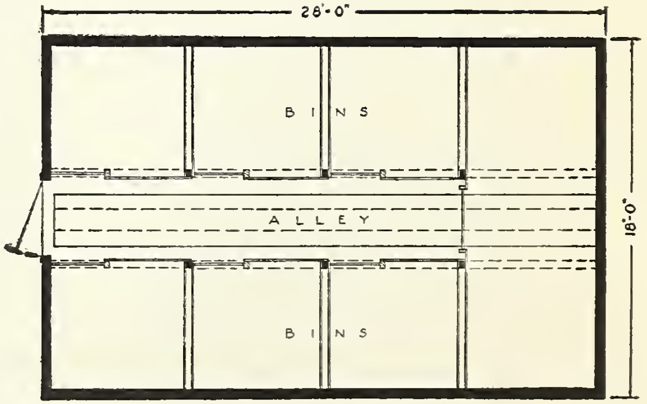


SECTION

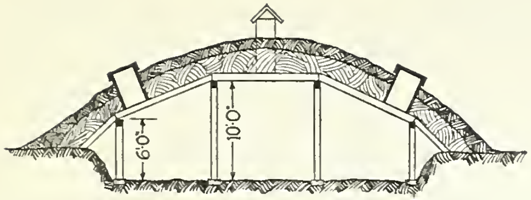
ABOVE-GROUND POTATO HOUSE

This house is for use in mild climates. Bins are 7 feet square and 5 feet deep. Slatted sides and floor permit air circulation through the potatoes, and facilitate cooling by night ventilation in warm weather. Unless naturally drained, tile or other means should be provided to remove ground water. Filling doors in the roof are practical if the structure is not too high. Where not feasible to have part of the storage underground, it is usually desirable to use a high concrete foundation and bank earth around it. When studs and siding are used for the above-ground part, the walls and roof should be insulated. If the house is too cold, lanterns may be used for a little heat.

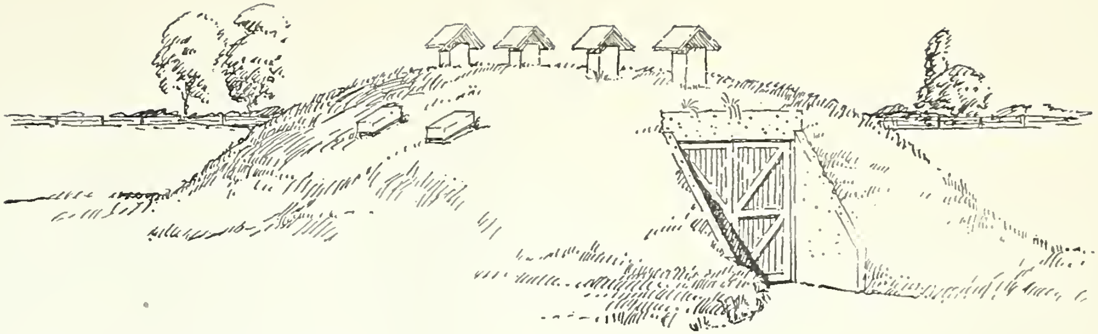
Drawing No. 734–5493 (1 sheet)



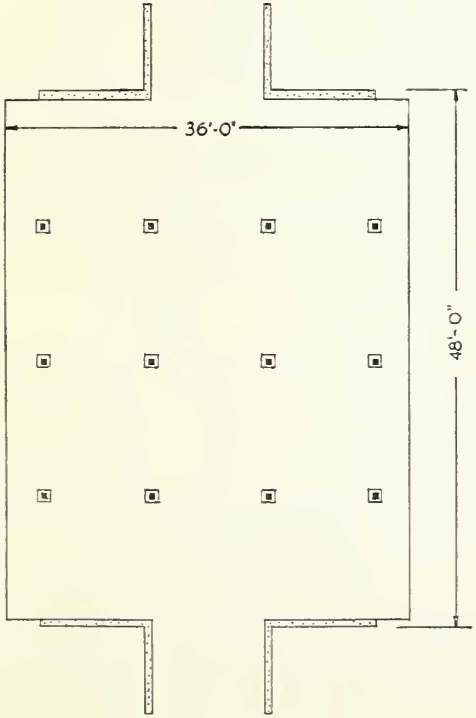
PLAN



SECTION



POTATO CELLAR



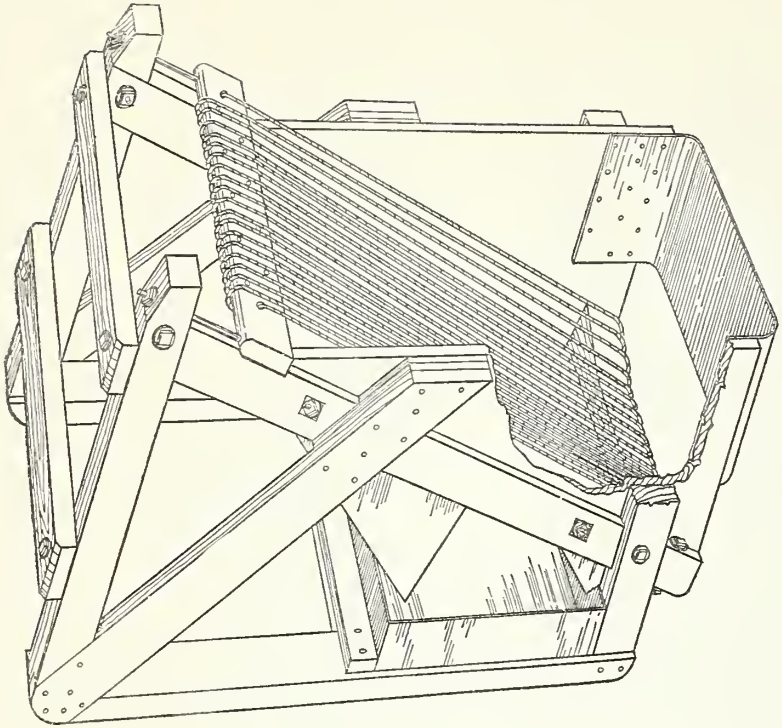
PLAN

Next to the pit, the simplest potato storage is the dugout. By varying the framing, this particular structure may be built entirely above the ground level, below it, or somewhere in between. It may be as long as needed. All the structural parts may be of logs, if plentiful, or the walls may be of rubble masonry or concrete and the roof of logs. The wide alley permits driving through with a truck, while the roof hatchways permit filling from the outside, if desired.

A concrete floor would add to the cost, but it is sometimes preferred to earth because the house can be more readily cleaned. Earth floors are common in farm storages of this type; however, removable slatted floors in the bins permit better air circulation. The floor, in sections for convenient handling, may be made of 1- by 4-inch slats nailed 1 inch apart on 2- by 6-inch joists which, in turn, should rest on three log sills.

The bin capacity can be estimated by allowing 1¼ cubic feet per bushel or 4 bushels for each square foot of floor space when bins are 6 feet deep. This allows for some loss in grading, as a net bushel is equivalent to 1¼ cubic feet.

Drawing No. 734–5504 (1 sheet)



ROPE-BOTTOM POTATO HOPPER

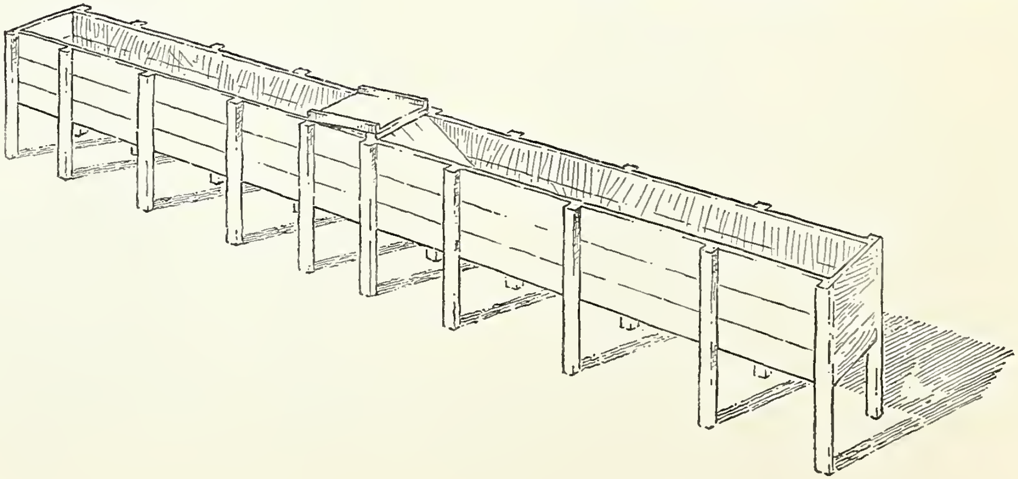
Unless potatoes are freed of earth before binning, the earth clogs the lower part of the bin, interferes with ventilation, and holds excessive moisture, which promotes rotting of the potatoes and of the storage house itself. Much of the adhering earth may be removed by running the potatoes through a hopper of this type before putting them in the bins. The special rope bottom practically prevents bruising of the potatoes.

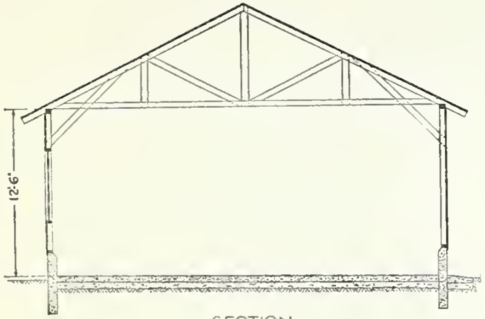
Drawing No. 7341–5091 (1 sheet)

APPLE WASHER

Where arsenical sprays are used, it is necessary to remove the residue from apples before they are put on the market. This simple washer is a trough divided into two sections, one for the dilute acid bath which removes the adhering residue, and the other for the rinsing water. This washer is not suitable for handling large quantities of apples.

Drawing No. 7341–5494 (1 sheet)





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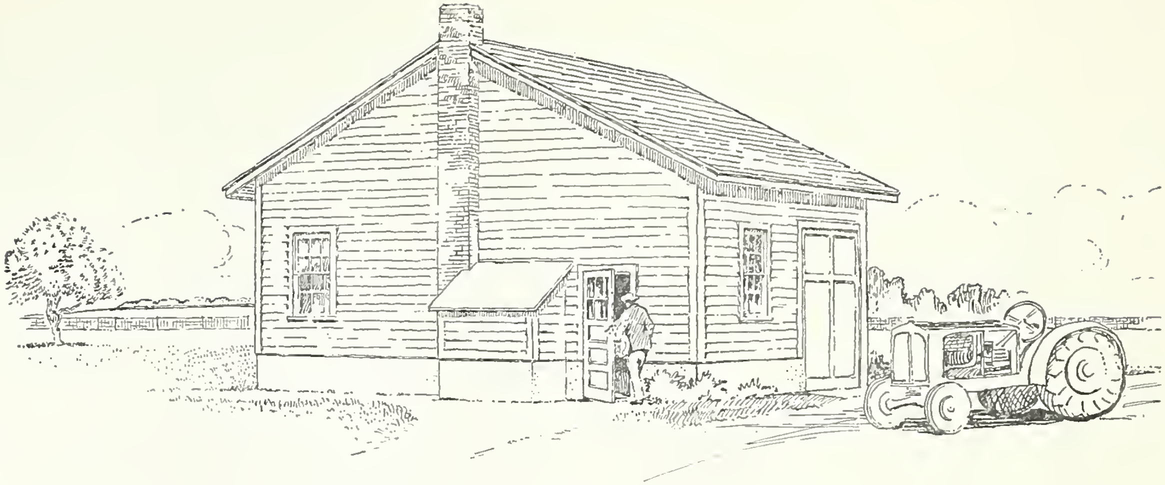
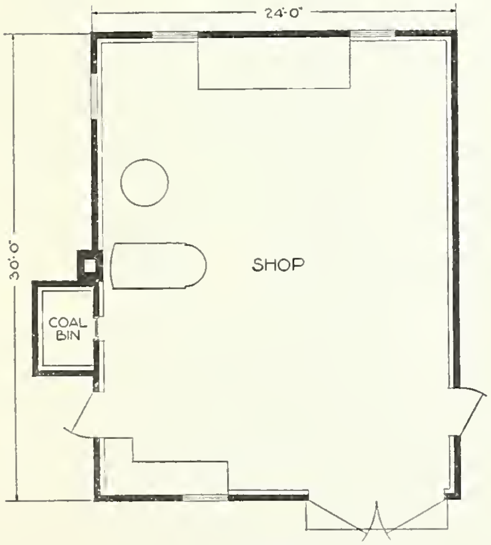




PLAN

FARM SHOP

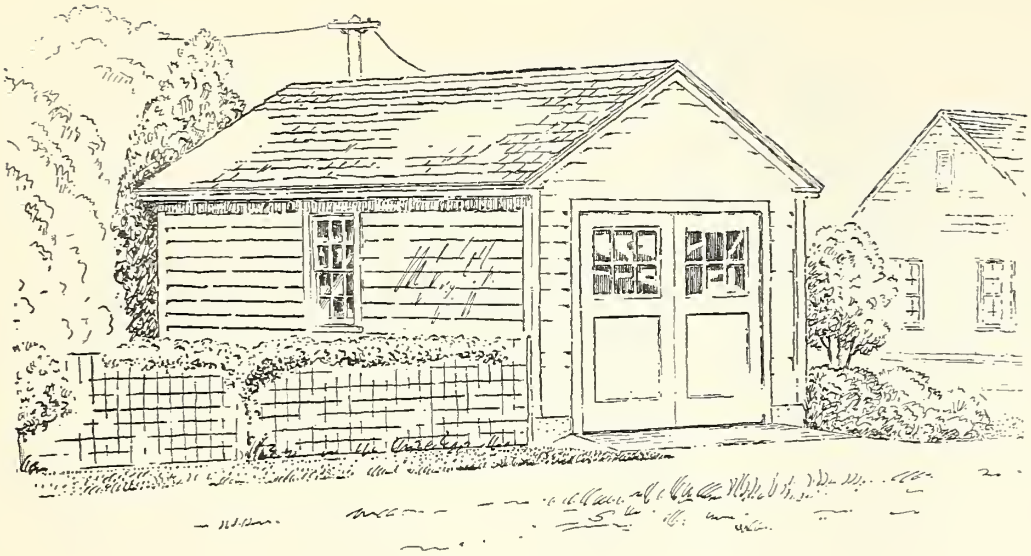
It is highly desirable to have the farm repair shop in a separate building because of the hazard of sparks from the forge. This shop is large enough to accommodate most farm machines while repairs are being made. The doorway could be made wider if needed. It should be arranged for convenience in doing different kinds of work. The equipment for working on iron should be grouped near the forge, while the carpentry and harness repair departments should have their own corners. A shop can be built rather cheaply as it is used for no other purpose than for shelter while making repairs. It can be merely a substantial frame covered with corrugated metal, vertical boarding, or horizontal siding.

Drawing No. 741–5146 (1 sheet)

Carpenter's Bench

A very practical home-made woodworking bench that could be used in a farm shop. (Not illustrated.)

Drawing No. 7411–5498 (1 sheet)



1-CAR GARAGE

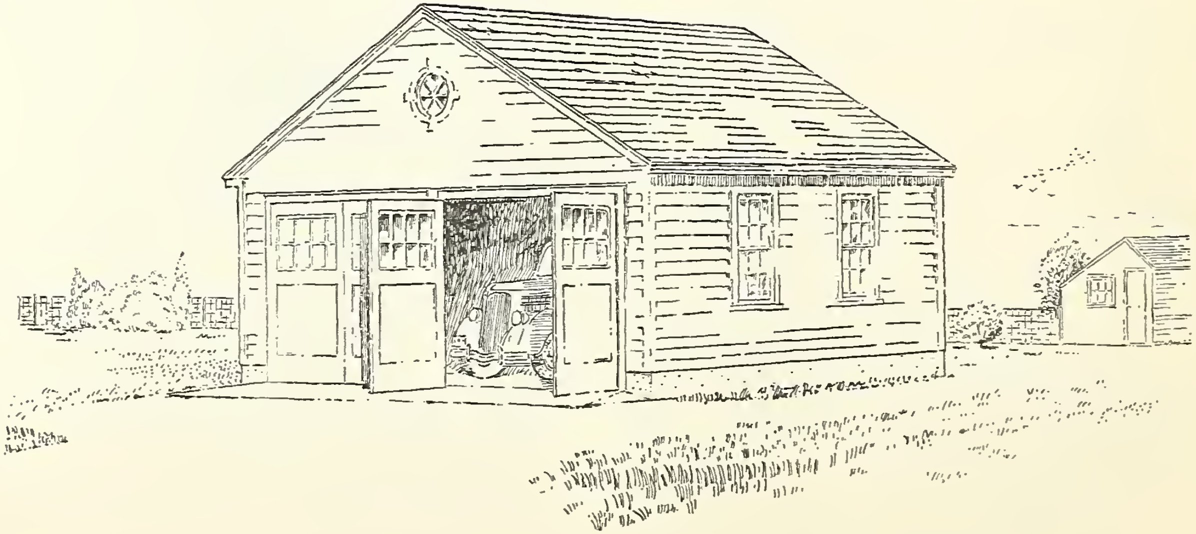
This garage is 12 by 20 feet. There is room for a workbench along one side. Doors may be made to run along the inside walls by providing curved tracks available from most hardware dealers. A well-packed cinder floor would help keep down the first cost. A concrete floor could be laid later.

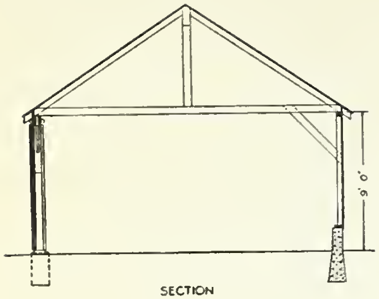
Drawing No. 741–5150 (1 sheet)

2-CAR GARAGE

Because of the method of framing, this 20-foot wide garage can be built for cars of any length. Twenty feet will do for the average car. There are no interior posts to block the floor. A workbench is desirable for minor repairs. The building may be of concrete blocks or stud walls covered with corrugated metal.

Drawing No. 741–5149 (1 sheet)





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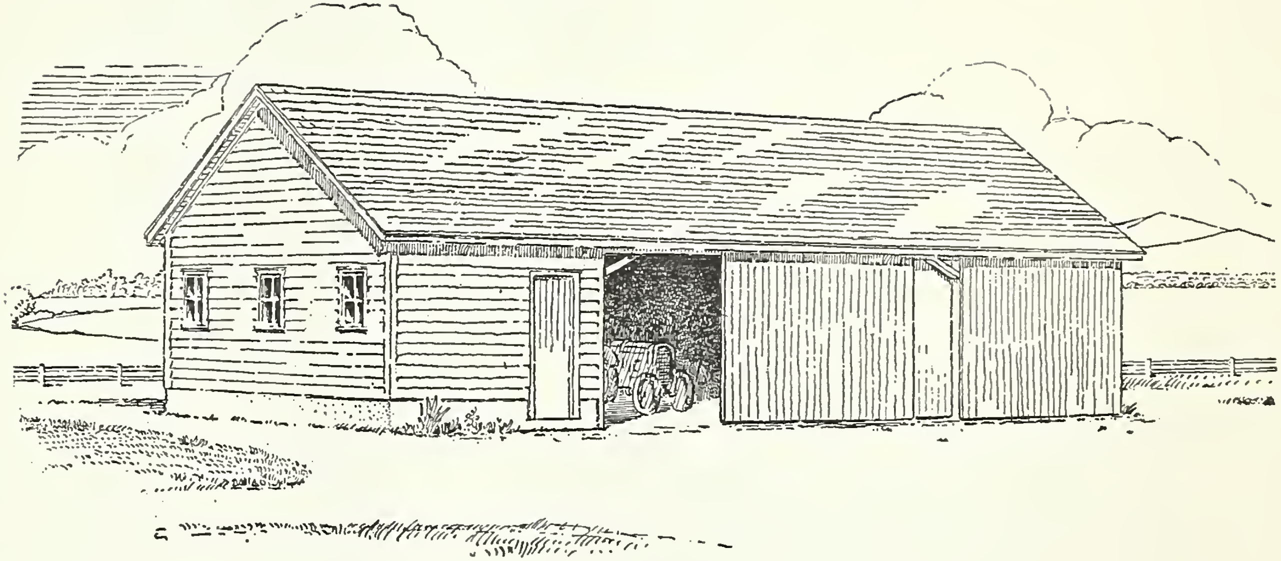
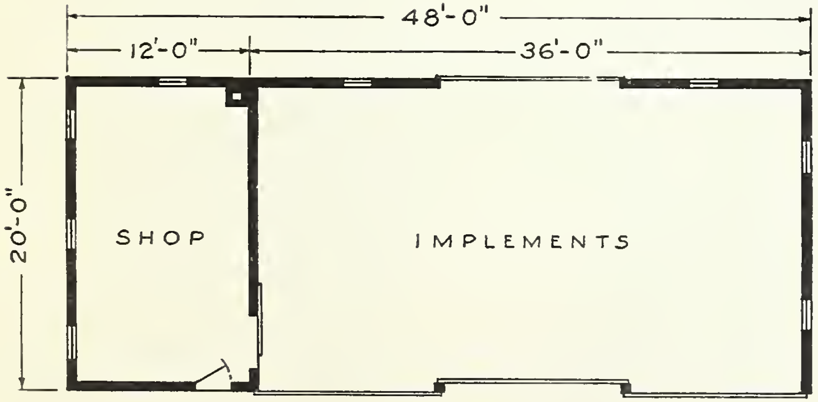


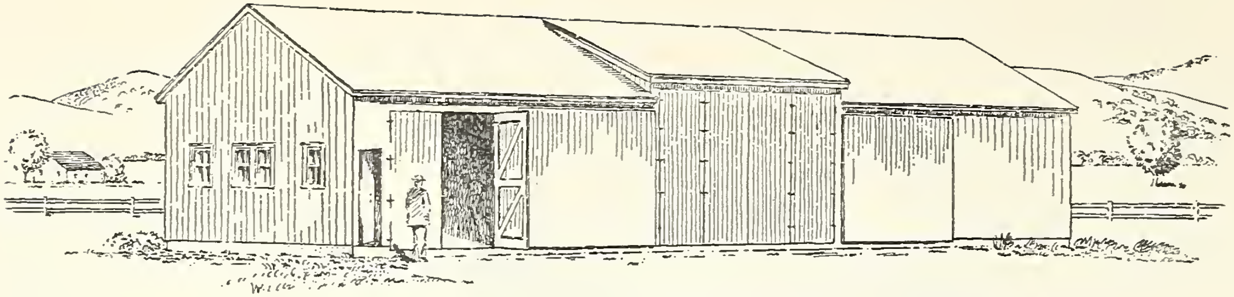


PLAN

IMPLEMENT SHED AND SHOP

The three large sliding doors of this enclosed shed permit free access to almost any machine without first shifting others. The building is of frame construction covered with horizontal siding, but with a few minor changes may be adapted for a covering of corrugated metal. A sliding door permits moving the smaller machines into the shop.

Drawing No. 741–5338 (1 sheet)

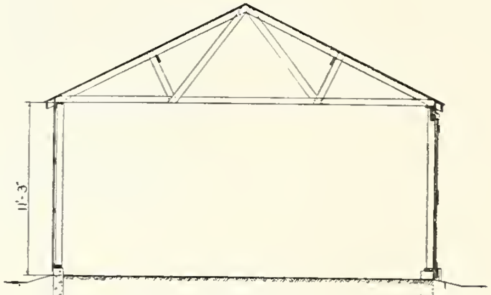


IMPLEMENT SHED AND SHOP

This building includes a repair shop and accommodations for a thresher in addition to storage space for the common farm machines.

The width of the shop, at one end, may be varied to suit the work to be performed. The roof over the middle section is made high to admit the threshing machine. One end of the building is designed to give clearance for hay loaders and small combines. Except for the two posts, the storage space is free of ground supports.

Drawing No. 741–5341 (3 sheets)



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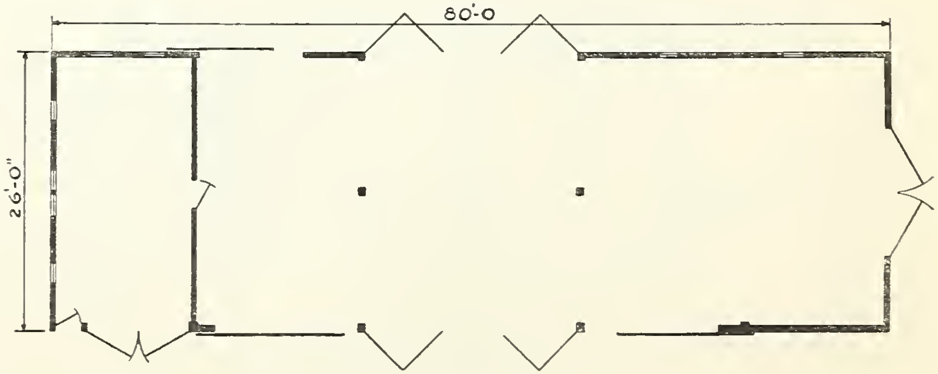
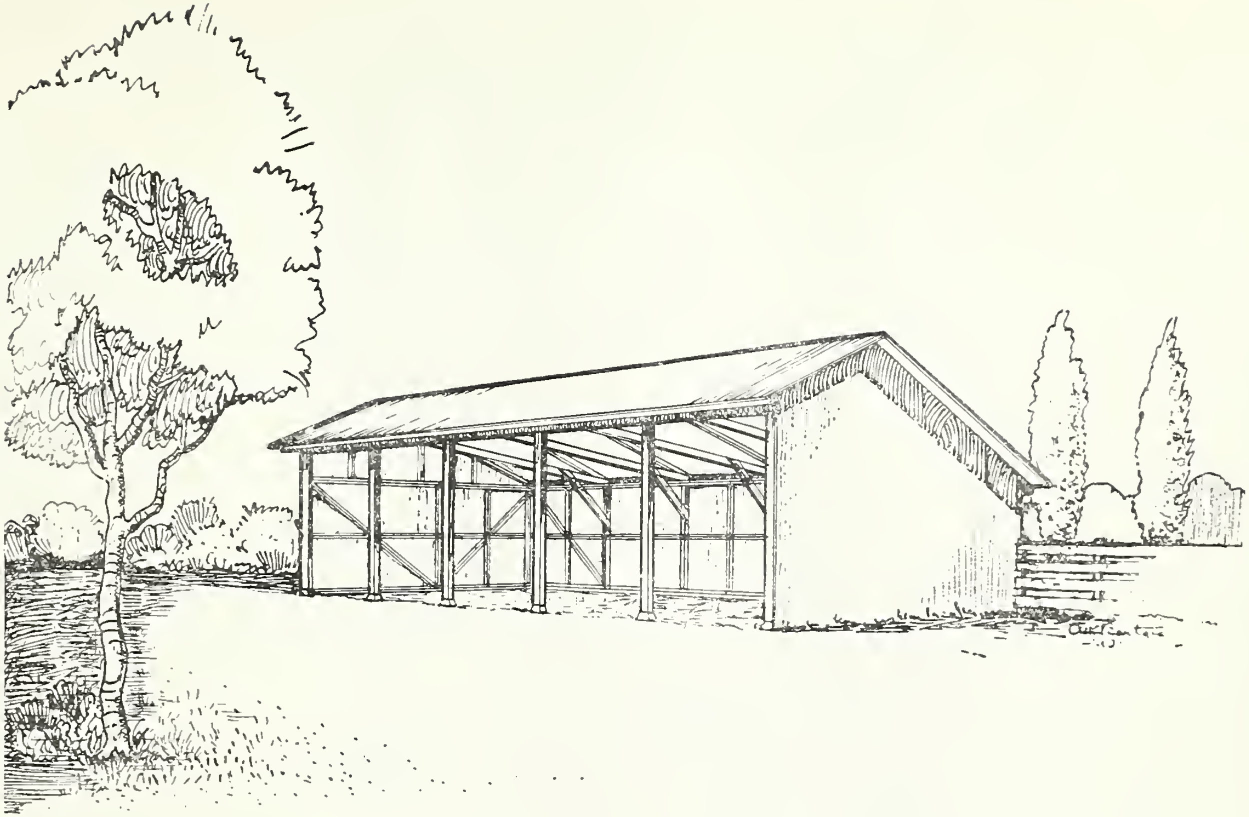
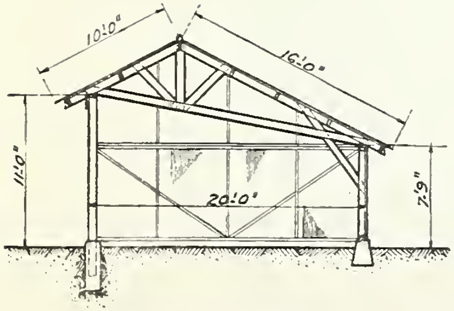


PLAN



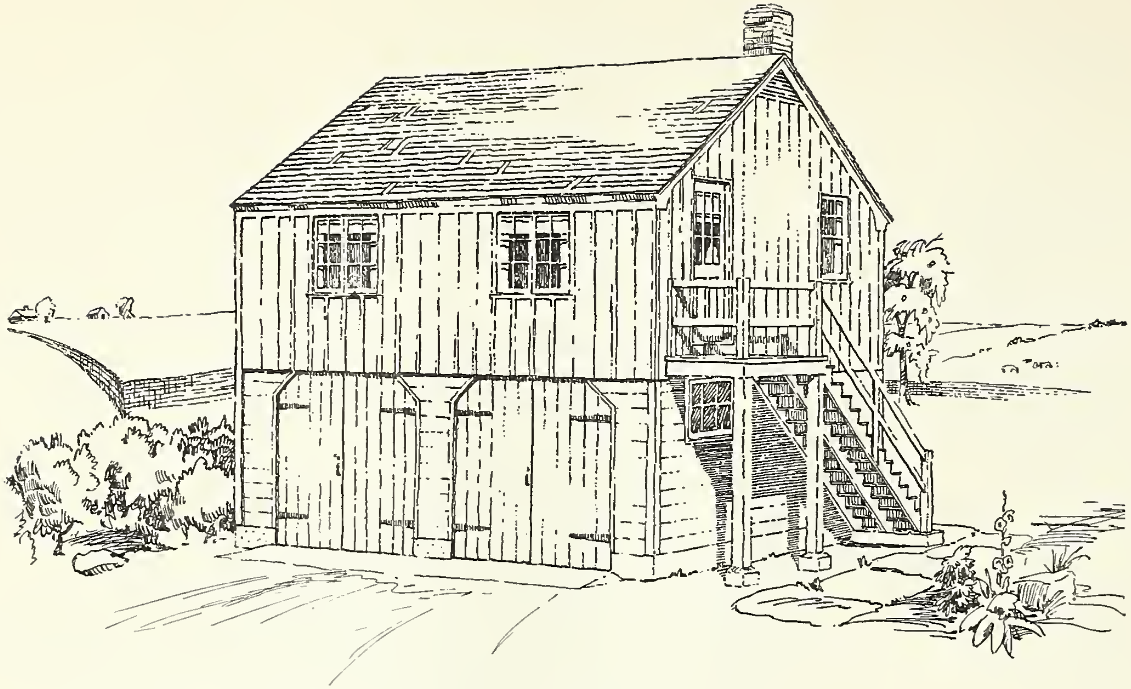


SECTION

IMPLEMENT SHED

This shed may be used for all of the common farm implements except the combined thresher-harvester. The front posts are set on concrete piers and may be spaced 8 to 12 feet apart. A skeleton frame permits the use of corrugated metal siding or vertical boarding. Intermediate studs would adapt it to horizontal siding.

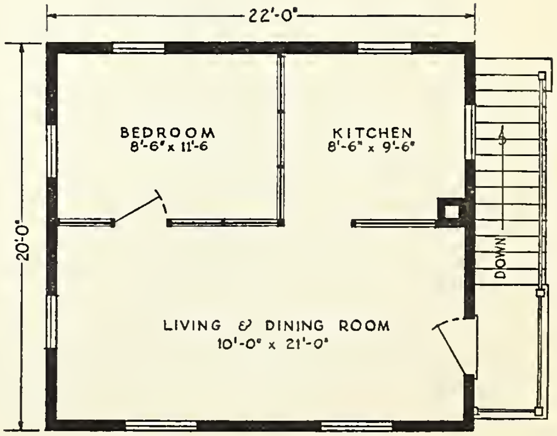
Drawing No. 741–5495 (1 sheet)



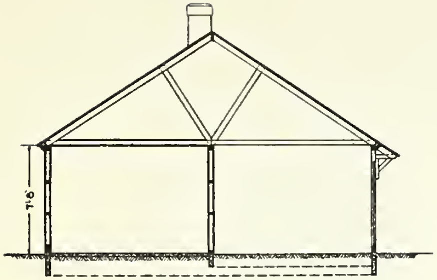
GARAGE AND APARTMENT

Frequently living quarters are needed for a hired man and his family or for a visiting friend. A small apartment above the garage provides convenient quarters. It may be finished at a later date with plaster or wallboard and fully equipped with toilets and other conveniences or merely with running water. The stair is placed on the outside to save space and reduce hazard in case of fire, but it could be built inside, between the car spaces, by increasing the length of the building 5 feet.

Drawing No. 741–5496 (2 sheets)



PLAN



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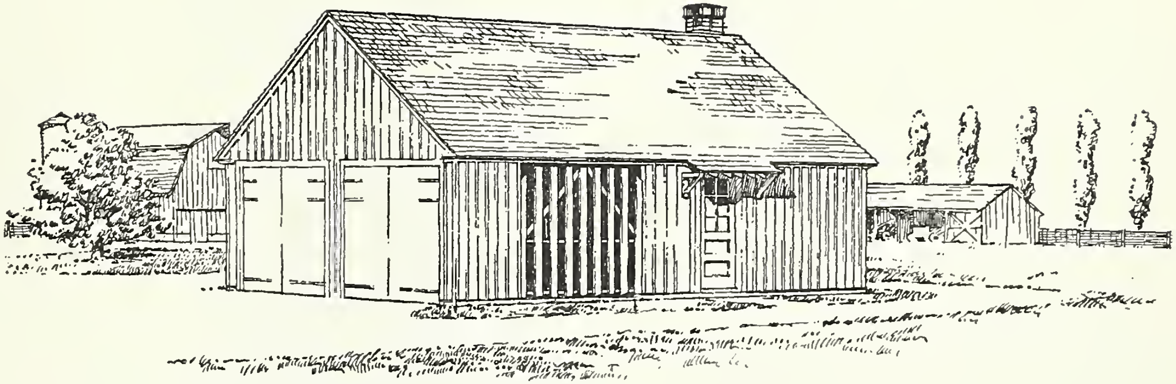
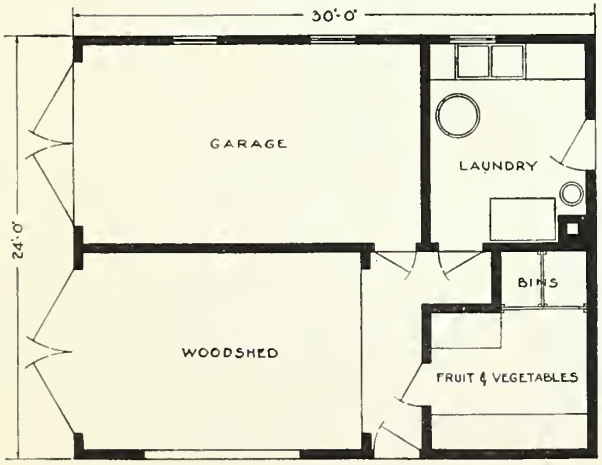


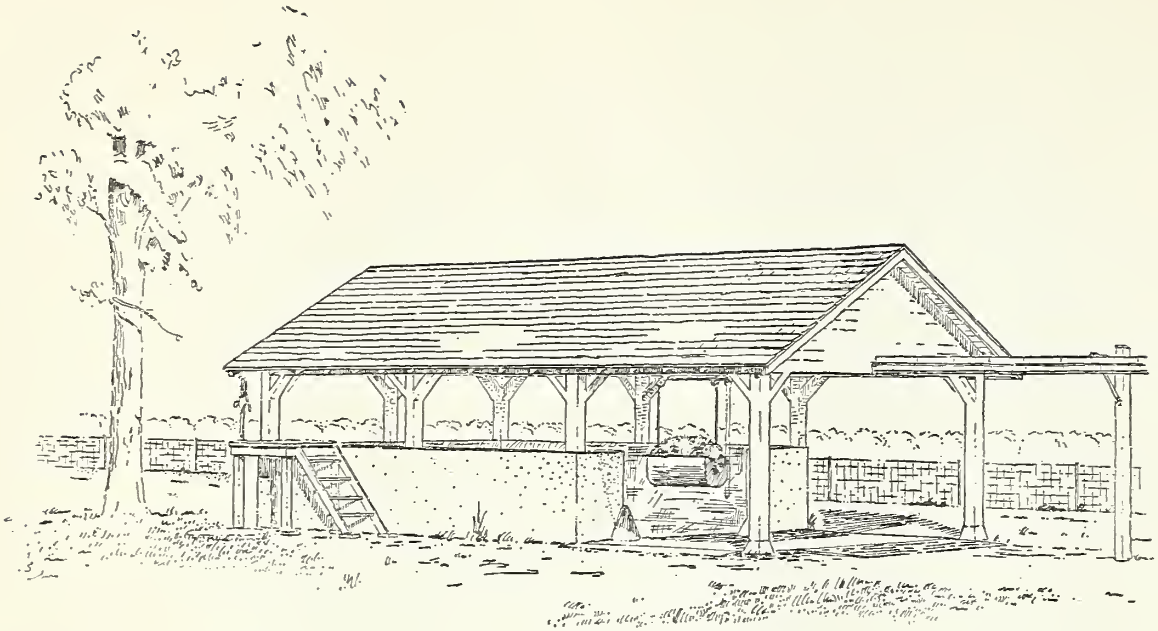


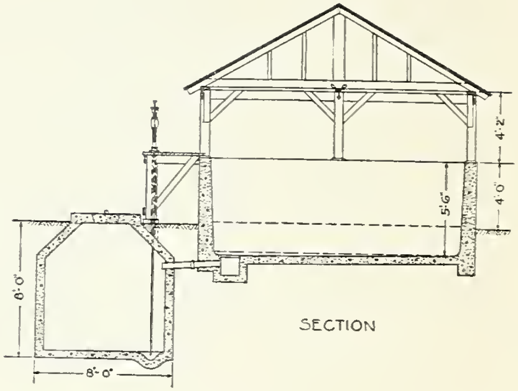
PLAN

UTILITY BUILDING

This is a general-purpose or combination building with uses similar to those of an ordinary house basement. Its use is auxiliary to small houses or those without basements. While space is indicated for definite operations, it may be adapted to other uses. For convenience it should usually be near the kitchen corner of the house.

Drawing No. 741–5497 (1 sheet)





MANURE PIT

This plan provides for draining the valuable liquid into a cistern at one end, but it may be omitted and the liquid allowed to accumulate in the pit. The dimensions show a pit that will house the manure from a herd of 60 cows for 2 weeks. When not in use the spreader may be stored in the covered drive out of the weather.

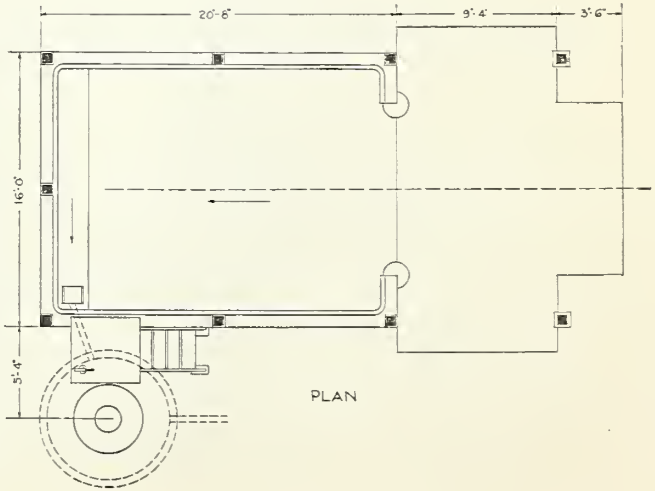
Local and State ordinances should be consulted in determining the location of the pit with respect to the milk house and barn. Some ordinances require the use of screens over all manure-pit openings.

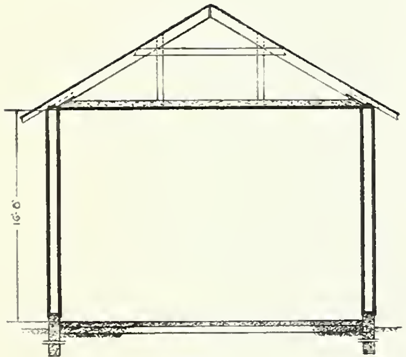
Drawing No. 743–5499 (1 sheet)

Manure Loading Equipment

When large quantities of manure are to be scraped from the barnyard and loaded in wagons or trucks, the special equipment shown on this plan will be found convenient. (Not illustrated.)

Drawing No. 7431–5500 (1 sheet)





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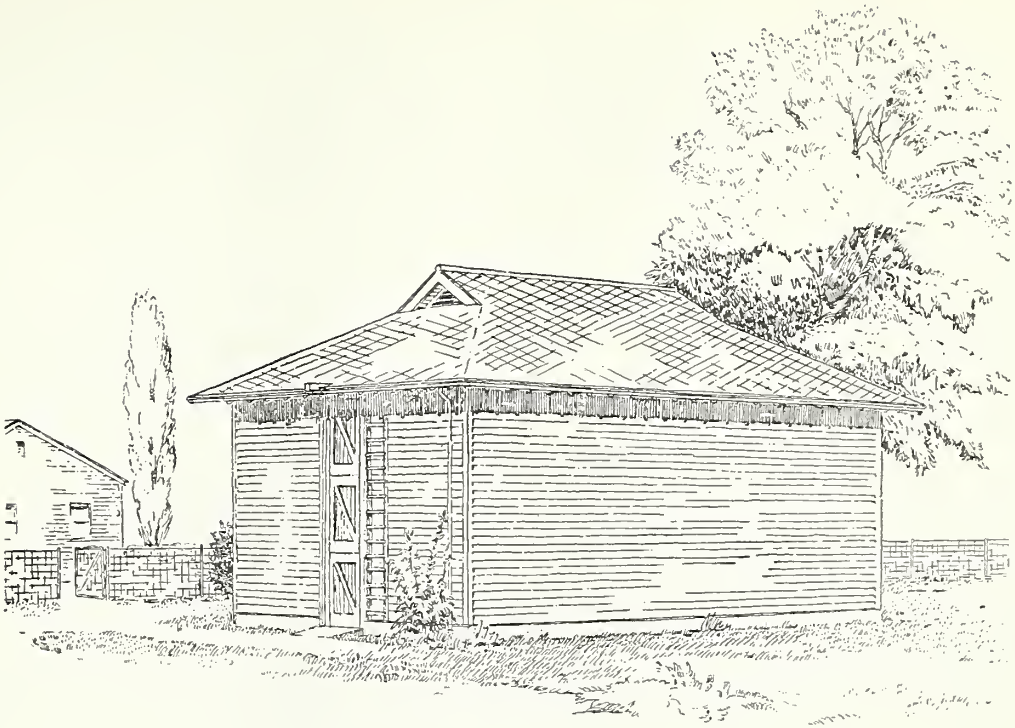
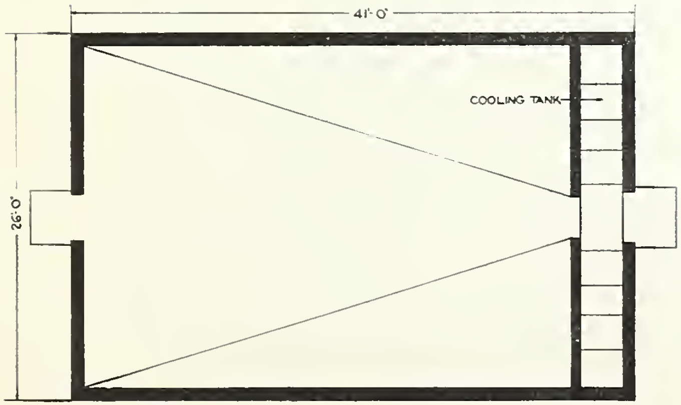


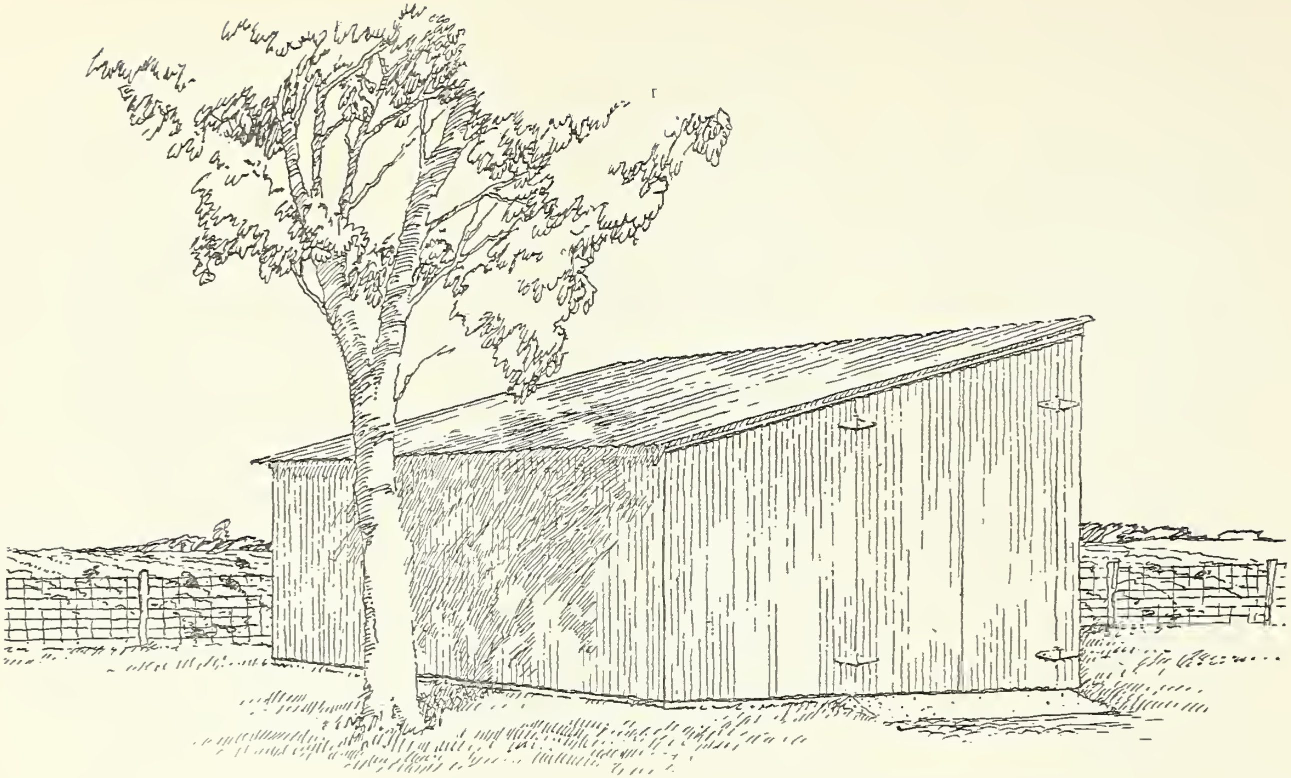


PLAN

ICE HOUSE

This is a common type of ice house. The vestibule and cooling room are features especially desirable on dairy farms, but can be omitted where only storage is needed. Other features are the continuous filling doors and the ridge vent which ventilate the roof space. The capacity is about 115 tons. Where smaller quantities of ice are to be stored the size of the building can be reduced proportionately. Ice occupies about 35 cubic feet per ton. A space should be allowed between the ice and the outside wall for 2 feet of sawdust insulation.

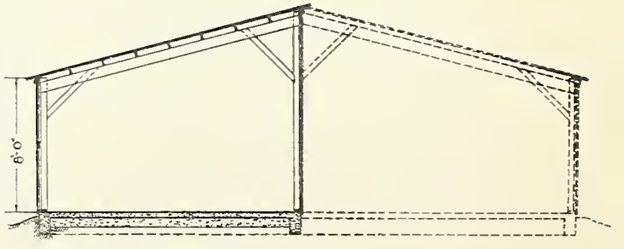
Drawing No. 744–5038 (1 sheet)



UTILITY SHED

This building may be used for many purposes, such as the storage of a few bales of cotton, a shop, storage for small implements, etc. It may be started as a 16- by 16-foot shed-roof building and later enlarged to a 16- by 32-foot gable-roof building. Three methods of construction are suggested. The cheapest is to use creosoted poles set in the ground for supports and a cinder or gravel floor. For permanence the concrete foundation and floor and sawed framing should be used.

Drawing No. 745–5501 (1 sheet)



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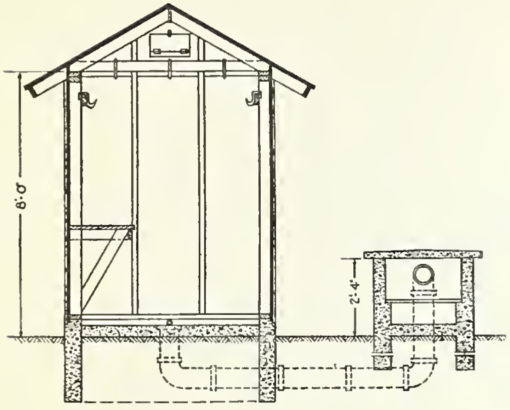

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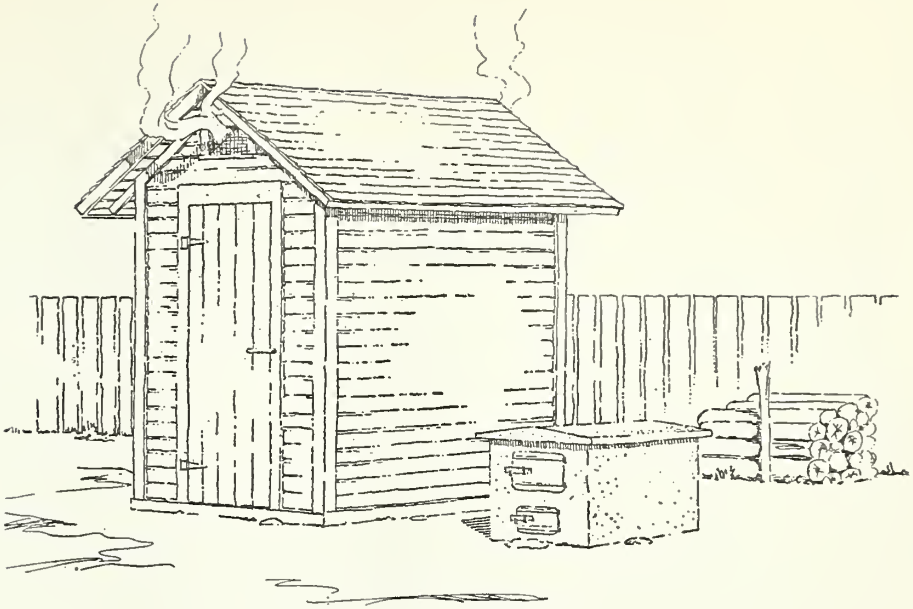
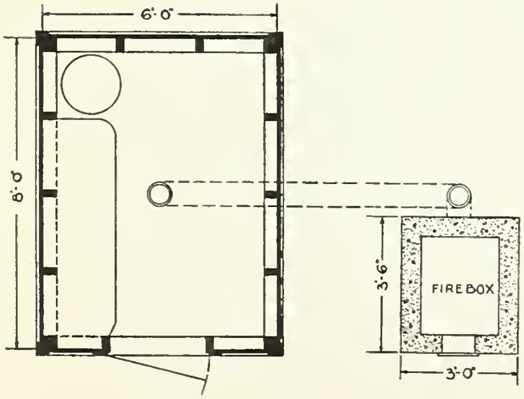


SMOKEHOUSE

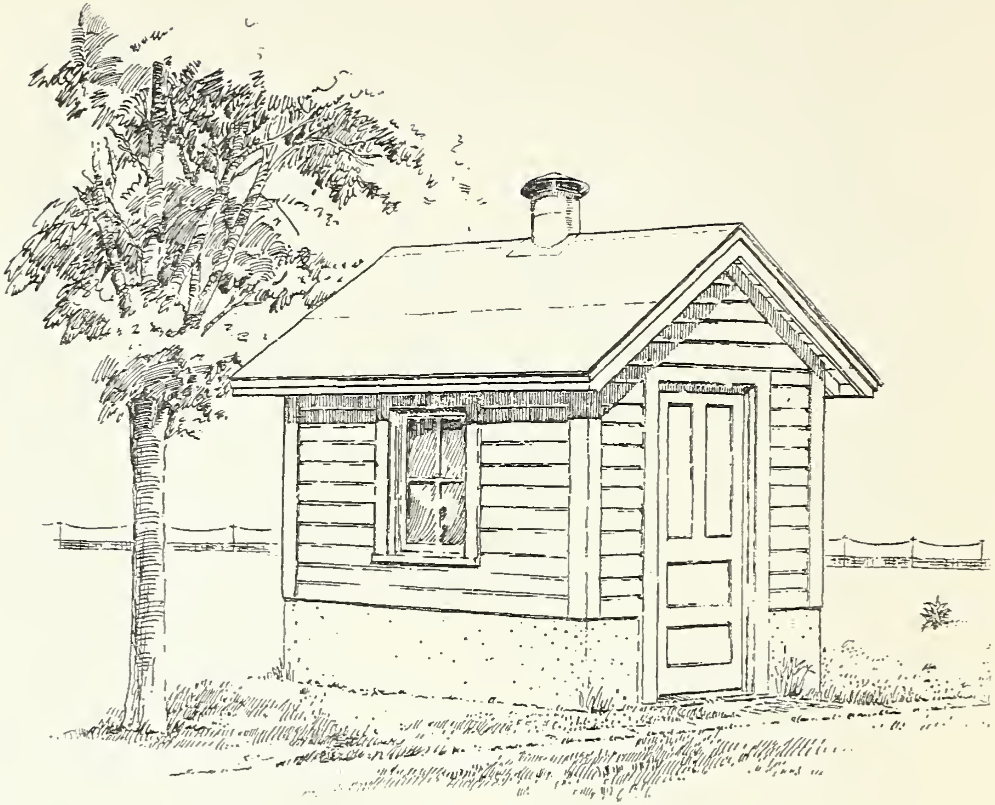
With an outside firebox, frame construction may be used in this smokehouse with little fire hazard. A duct leads the smoke from the firebox to an opening in the center of the floor and ventilating flaps in each gable may be opened or closed depending upon the direction of the wind. The meat is hung to beams spaced so the pieces will not touch. Tight construction is necessary since temperature is controlled by the gable vents. Sometimes it is necessary to kindle a paper fire in the building to start the draft so that smoke will be drawn through the flue.

The outside stove would have a wider use if a hole of a size for a large kettle were left in the top slab, or if a metal vat were used in place of the slab. If used for some other purpose than smoking meat an auxiliary smokepipe could be added and a damper provided to keep smoke from entering the house.

Drawing No. 751–5029 (1 sheet)



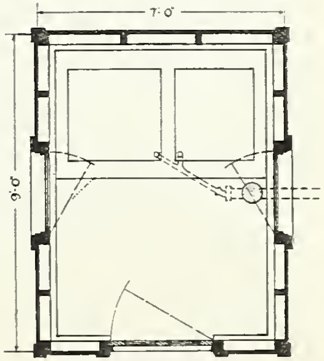
PLAN



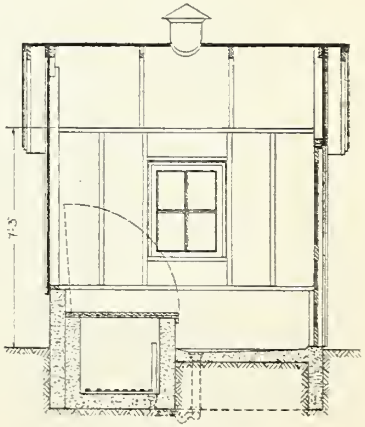
MILK HOUSE

Where ordinances require a milk house separate from the barn, some such simple, well-ventilated structure as this one with concrete floor and drain is necessary. Sink, sterilizer, or other equipment can be installed as needed. Screens should be used at door and windows. The concrete tank will hold eight 10-gallon cans and is designed for simple water cooling, but coils could be used. The lower walls are of concrete and the upper of studs covered with horizontal siding. Before selecting plans for a milk house, the local dairy inspection agency should be consulted regarding sanitary regulations.

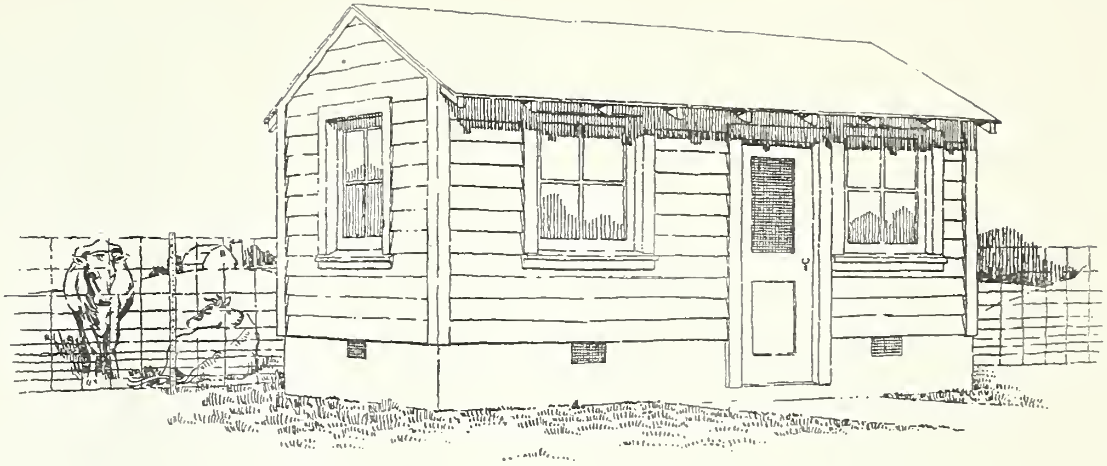
Drawing No. 752–5032 (1 sheet)

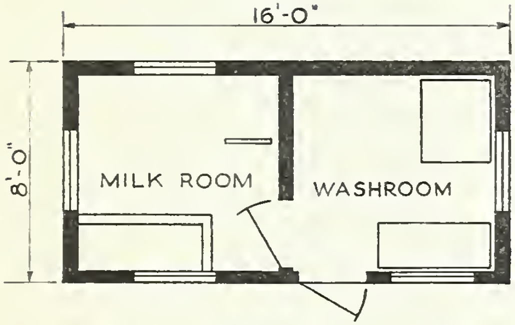


PLAN



LONGITUDINAL SECTION



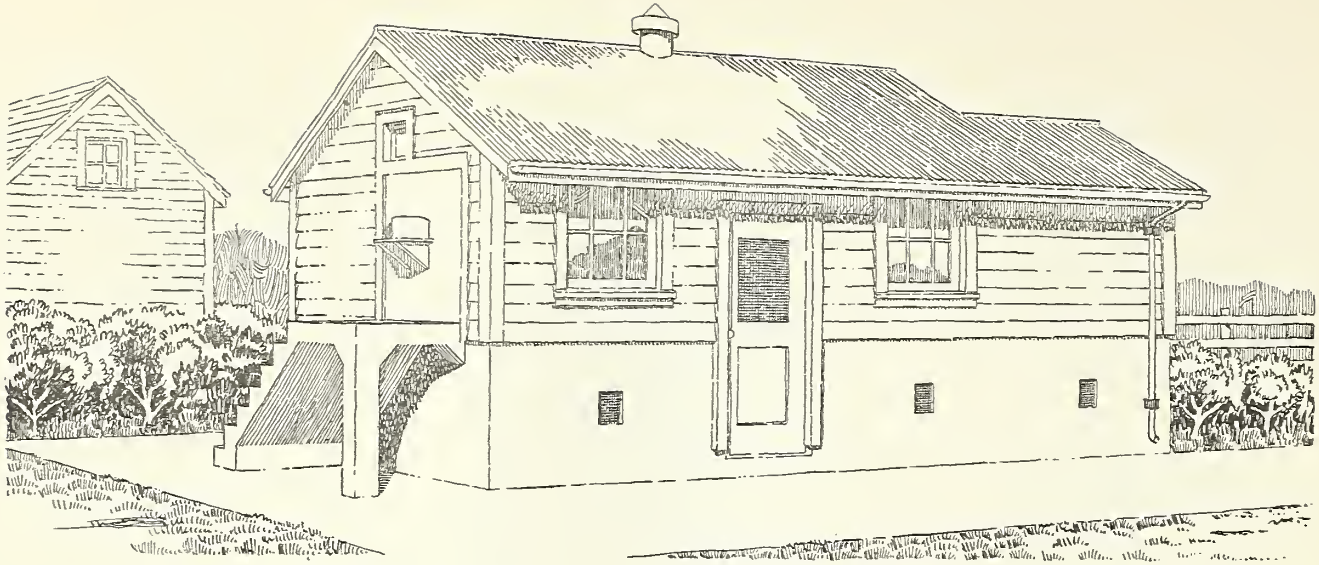


PLAN

2-ROOM MILK HOUSE

This house is designed primarily for farms marketing cream. It has ample capacity for dairies of 40 to 60 cows, depending on the method of handling the product. It may be used on market-milk dairy farms having 20 to 40 cows, provided mechanical refrigeration is not required. The attendant carries buckets of milk into the washroom and pours it into the straining receptacle. From this it runs over the tubular cooler in the milk room. Three 10-gallon cans of milk or cream may be placed in the cooling vat. The water in the vat may be changed continuously if a supply of cool water is piped in from a spring or well, or it may be chilled by placing ice in the vat. Before selecting plans for a milk house the local dairy inspection agency should be consulted regarding sanitary regulations.

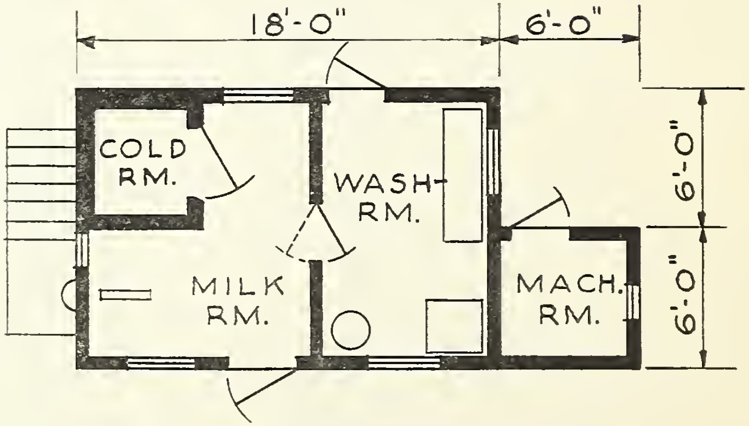
Drawing No. 752–5502 (1 sheet)



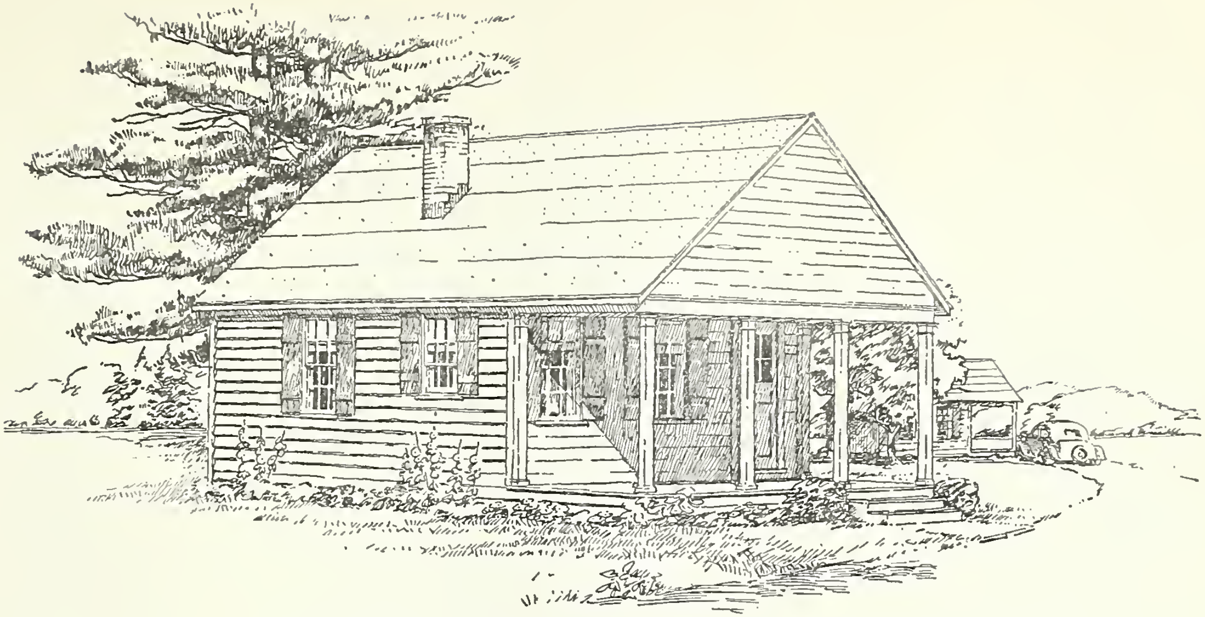
3-ROOM MILK HOUSE

A house of this size will probably be most practical on farms with 50 to 100 cows, depending upon the method of handling the product and the frequency of marketing. The cold-box capacity will depend to some extent upon the brine tank installation, but will probably not exceed fifteen 10-gallon cans or 36 cases of bottled milk. If the milk is to be marketed immediately after each milking the cold box may be omitted. Wooden steps and dumping platform may be used in place of the concrete construction shown. Before selecting plans for a milk house the local dairy inspection agency should be consulted regarding sanitary regulations.

Drawing No. 752–5503 (2 sheets)



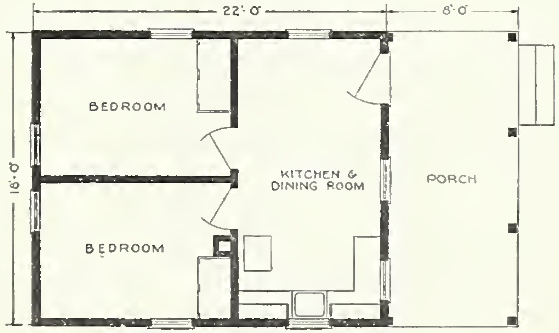
PLAN



Playground Layouts

Athletic fields are often needed in connection with club and fair activities. The drawing (which is not illustrated here) shows the dimensions and boundary lines for tennis, basketball, croquet, and horseshoe courts, a football field, and a baseball diamond. (Not illustrated.)

Drawing No. 791–5183 (1 sheet)

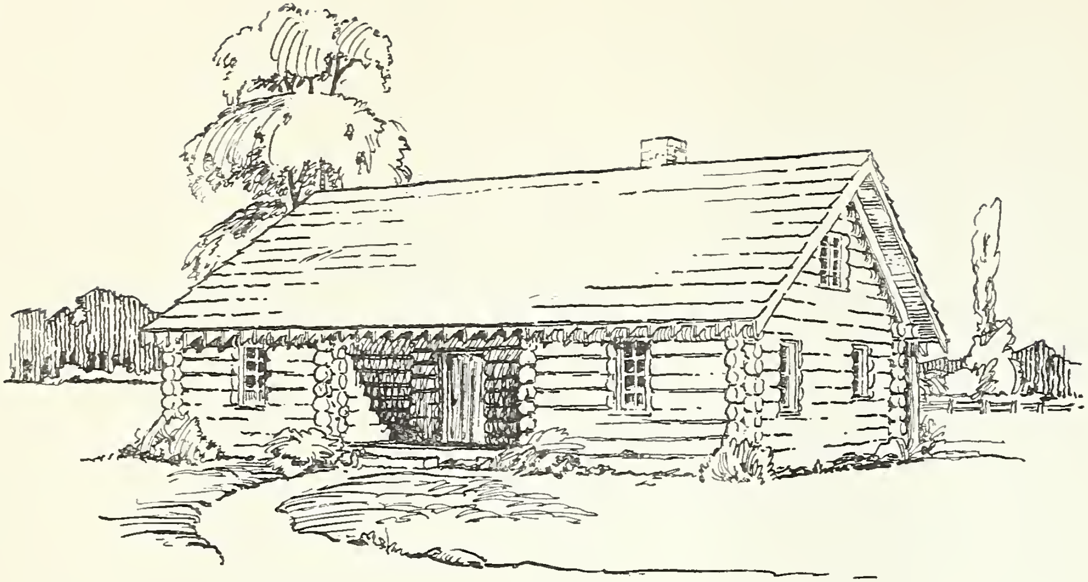


PLAN

3-ROOM CABIN

This cabin is suitable for camping or could be utilized as a bunkhouse during the harvest season. It could serve a family temporarily while a permanent farmhouse was being built. The cook stove would also be the heating stove. In cold climates the cabin should be insulated.

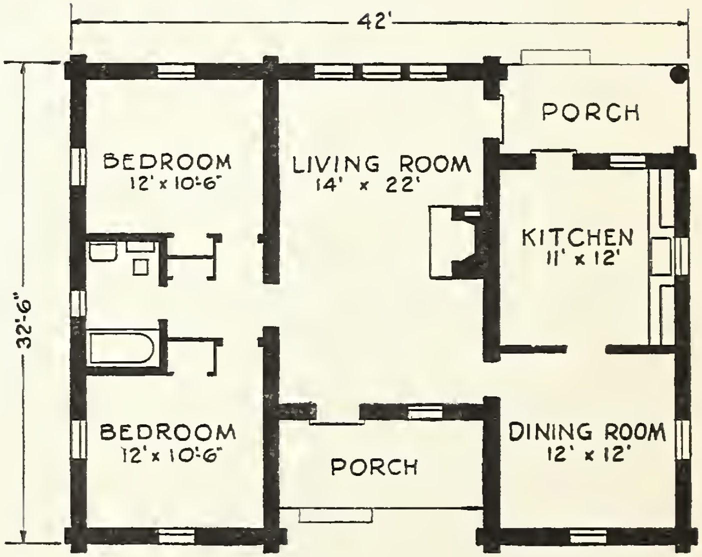
Drawing No. 791–5185 (1 sheet)



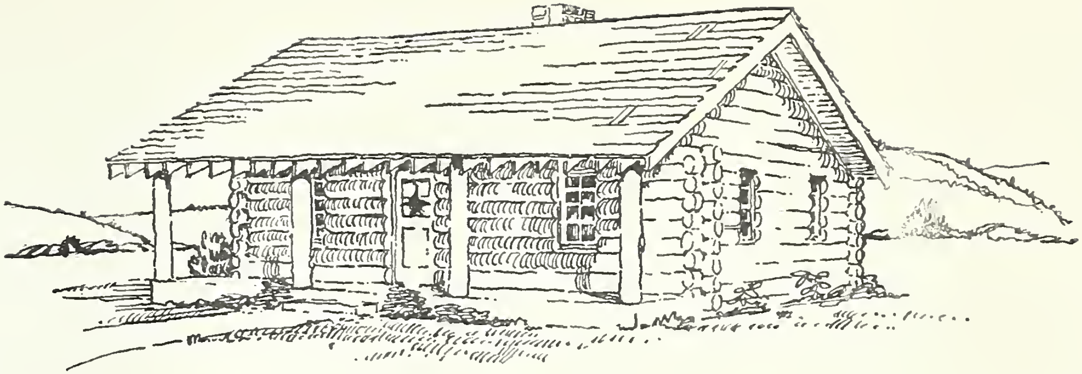
LOG CABIN

This five-room cabin, designed principally for camping, would make a fairly comfortable house for a small family. A basement could be provided, entered down a stairway from the back porch. Loft space could be reached by an open stair in the living room.

Drawing No. 794–5506 (2 sheets)



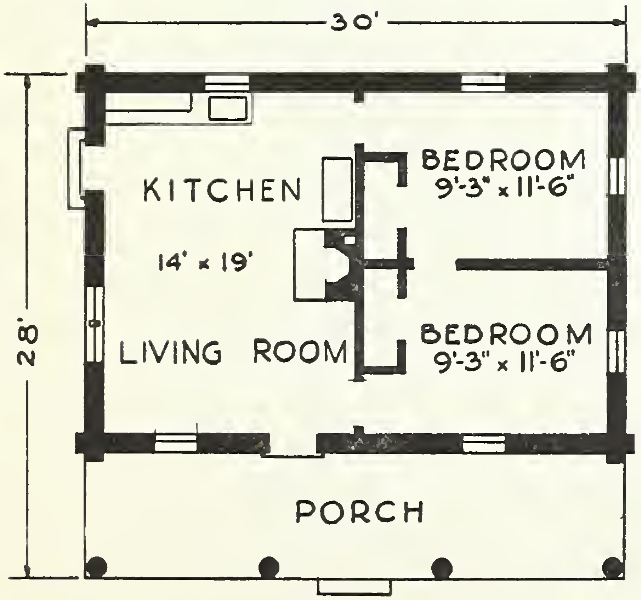
PLAN



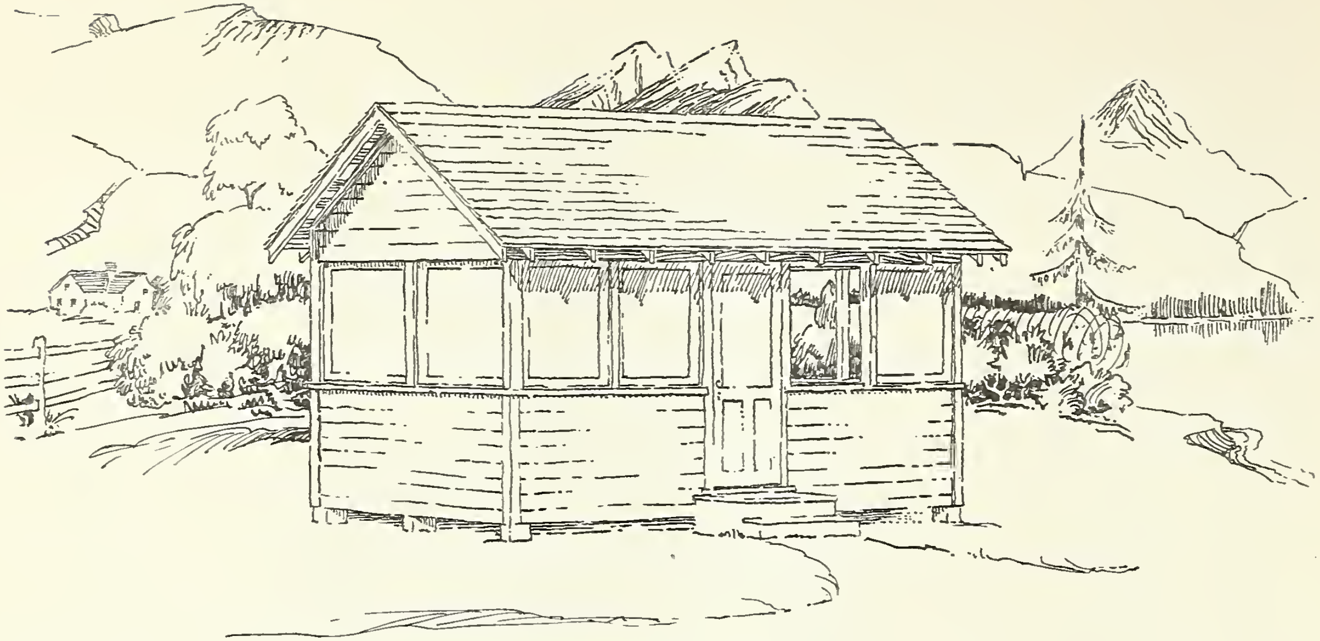
LOG CABIN

This three-room cabin built of logs would be especially appropriate for a camp in the woods or on the lake shore. The back of the fireplace gives heat to the bedrooms. The large porch is especially desirable when the house is to be used as a summer home. Porch posts of peeled logs are the thing for this cabin.

Drawing No. 794–5507 (1 sheet)



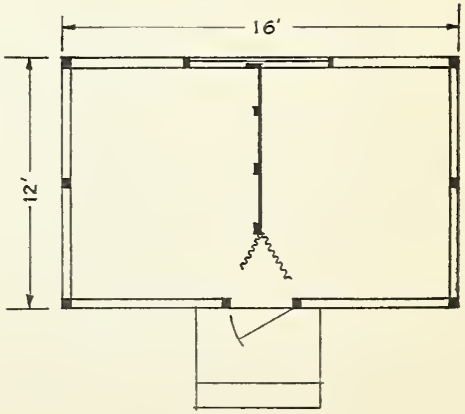
PLAN



FRESH-AIR SLEEPING CABIN

This cabin is an improvement over the common sleeping porch in that all sides may be open. Side walls are high enough so the wind will blow well above the tops of the beds. The construction is simple and the cost low. Hinged frames covered with muslin may be dropped in unusually cold and windy weather. A light partition divides the 12- by 16-foot building into two rooms. Each room is large enough for a double bed and dressing table or wardrobe. A child's narrow bed may also be used. With such a cabin as this the porches of the house are always free for social and other purposes.

Drawing No. 794–5508 (1 sheet)



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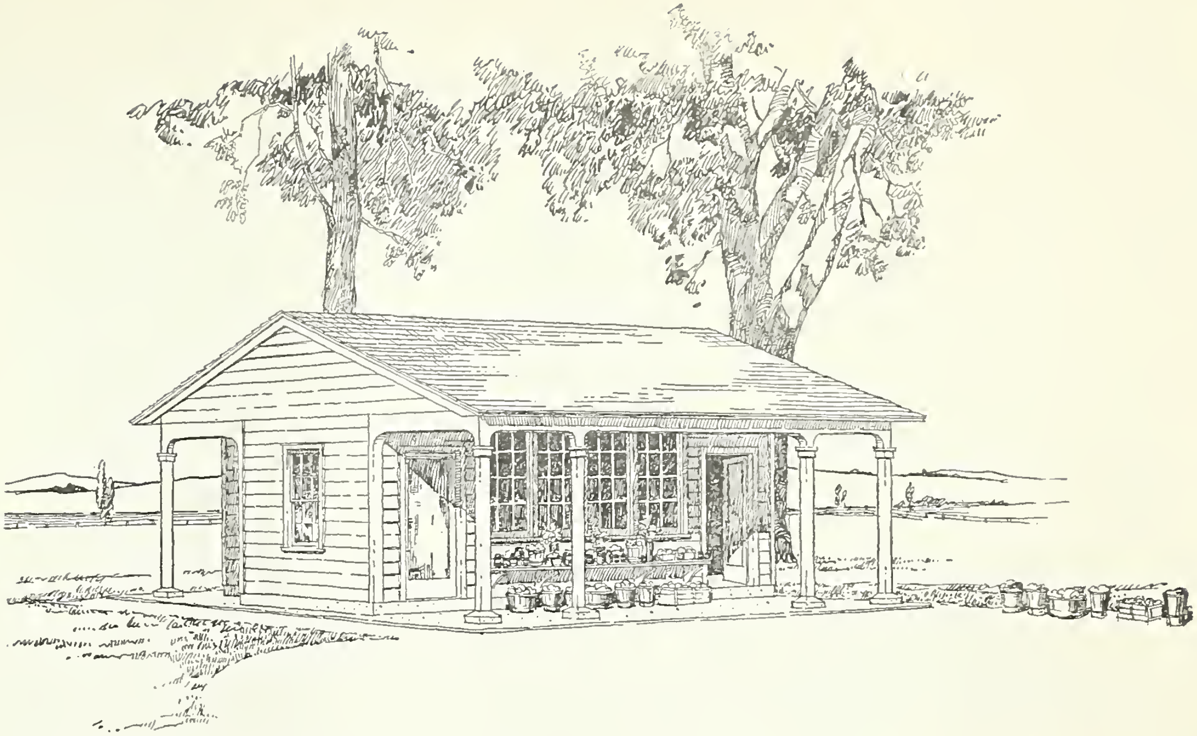

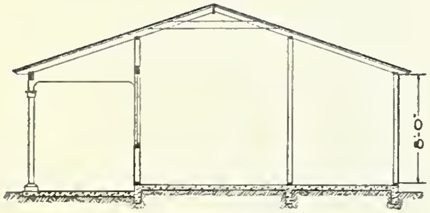

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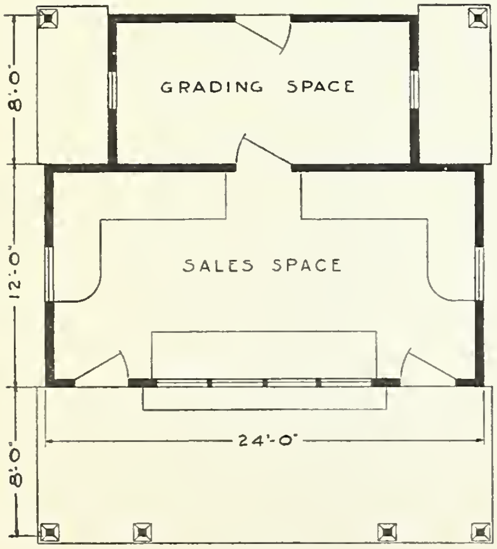


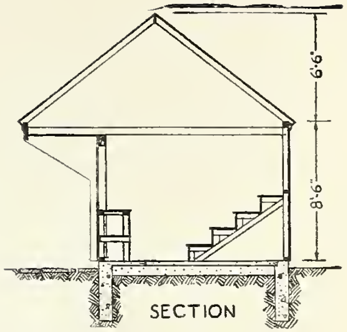
PLAN

LARGE ROADSIDE STAND

In favorable locations farmers are building permanent stands of this type and frequently provide buildings with a water supply, ample shelter, rest rooms, free tables, benches, and other features the traveling public appreciates. Sometimes overnight cabins with water, heat, and cooking conveniences are operated as a side line.

This plan provides a large salesroom, a grading or storage room, and suggests a court for safe parking. It could be built of logs or stones if they are easily obtained.

Drawing No. 799–5192 (1 sheet)



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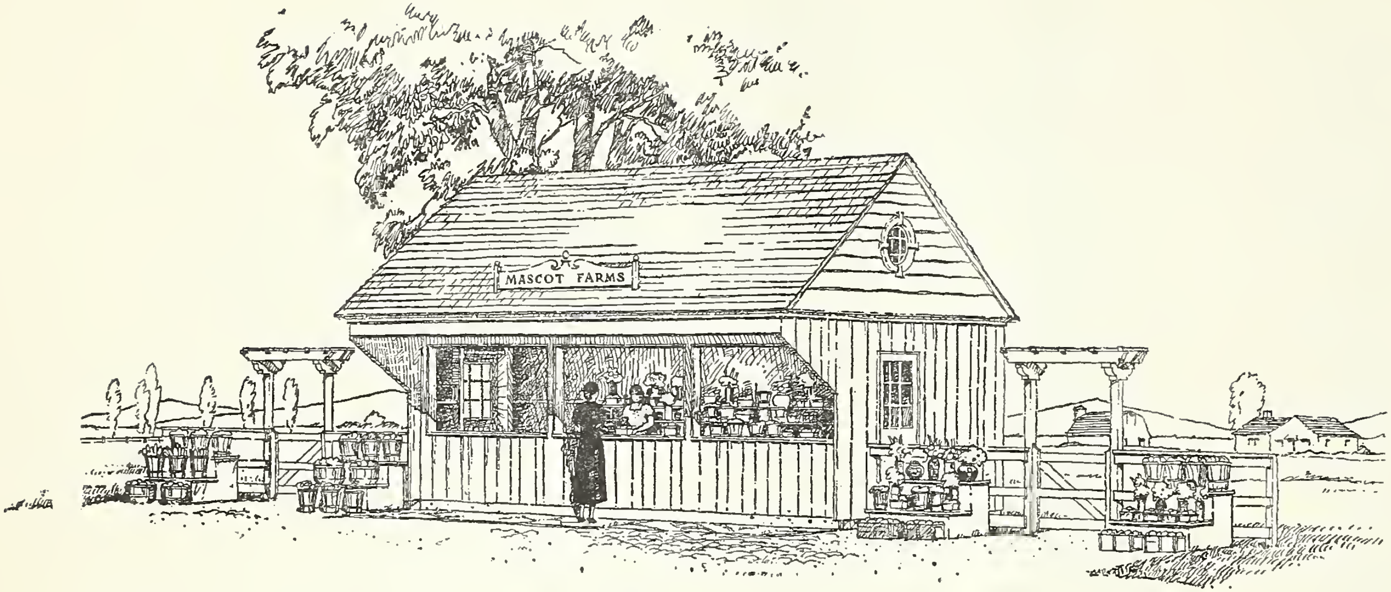
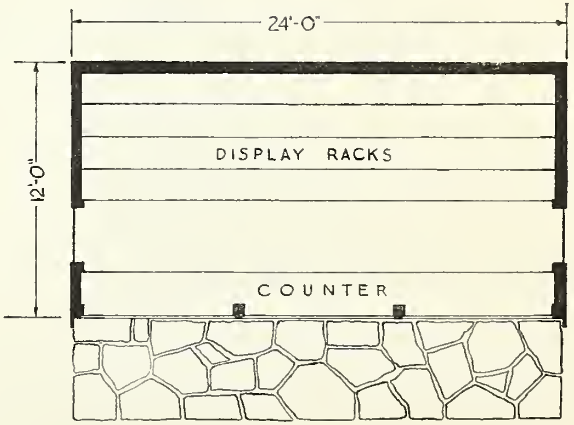


SMALL ROADSIDE STAND

This simple stand with overhanging roof affords shade inside and encourages people to stop even in bad weather. It can be shut up at night by dropping the shutters over the counter. It might well be built of logs. If set well off the edge of the road, the safe parking will be another inducement for patronage, but it should remain within sight of travellers for some distance in both directions. Stands should never be located where they may increase traffic hazards.

Drawing No. 799–5193 (1 sheet)



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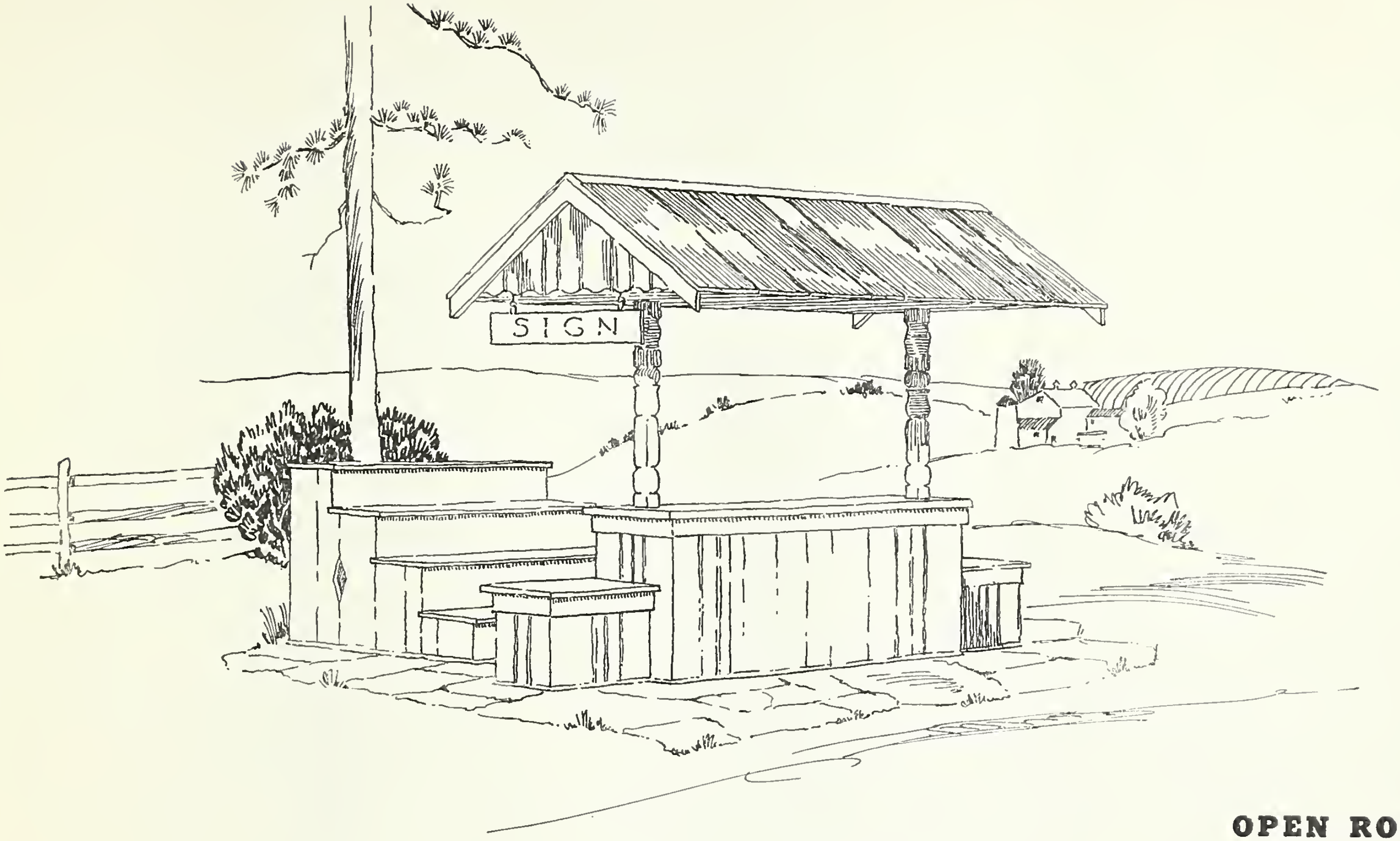
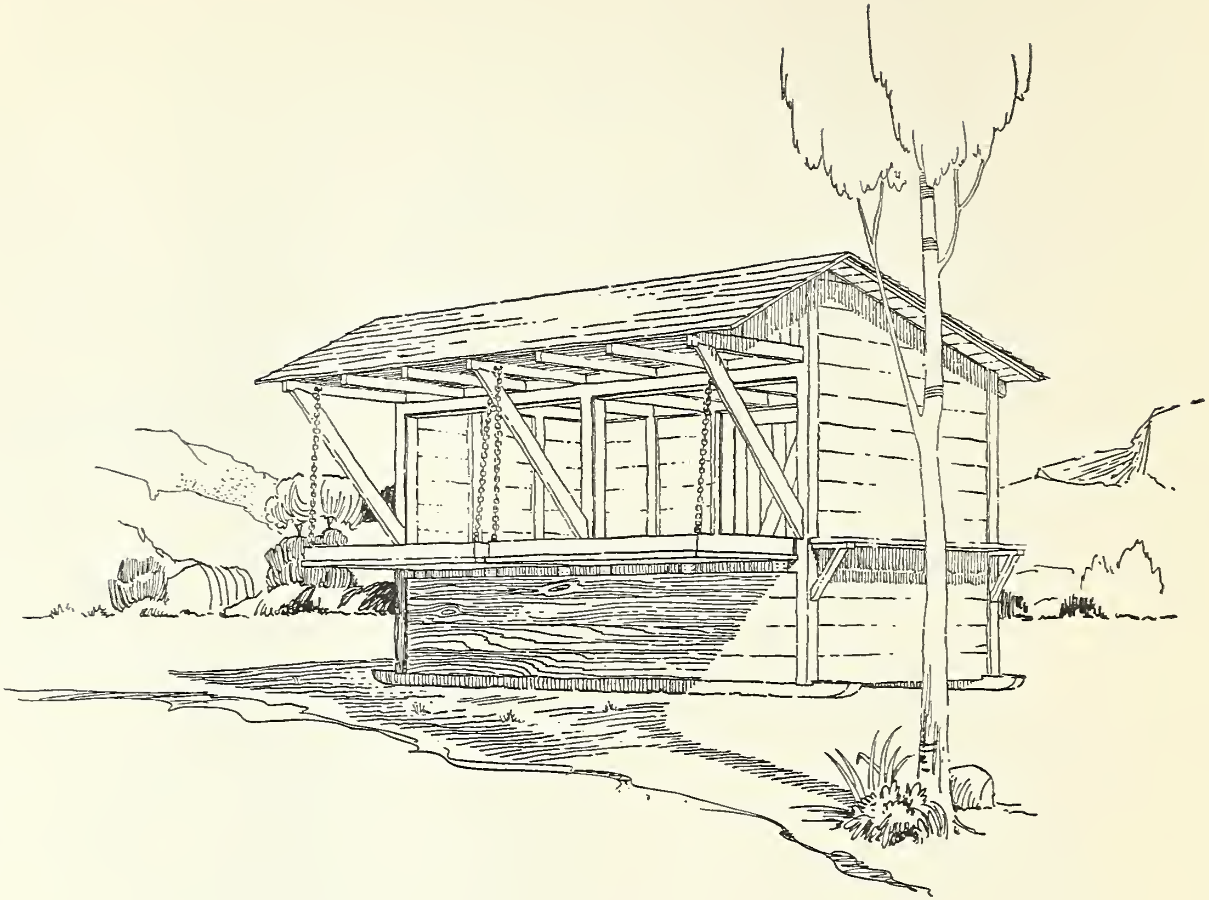


OPEN ROADSIDE STAND

Roadside stands have developed from the pioneer stage of a few rough boards and an umbrella to attractive structures in great variety. Simple open stands can often be built from local materials. They are sufficient where a small quantity of produce is sold only 1 or 2 days of the week. One of good design is often an ornament.

Drawing No. 799–5194 (1 sheet)



MOVABLE ROADSIDE STAND

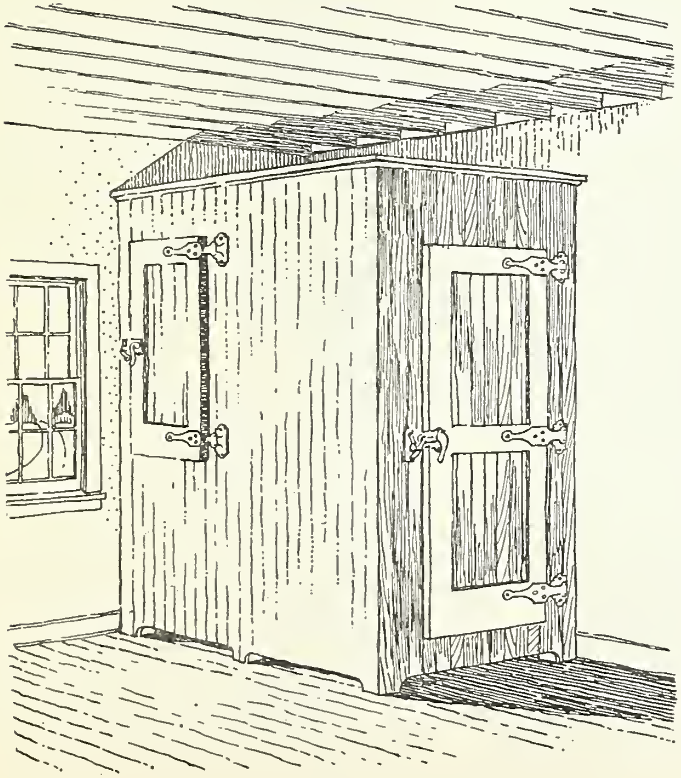
This small 6- by 12-foot stand is on skids to permit dragging by truck from place to place. It could be taken back to the farmyard and kept there during the nonselling season, moved to a more favorable location if the one selected should prove unprofitable, placed on a rented site, or dragged to the fairgrounds for housing a concession.

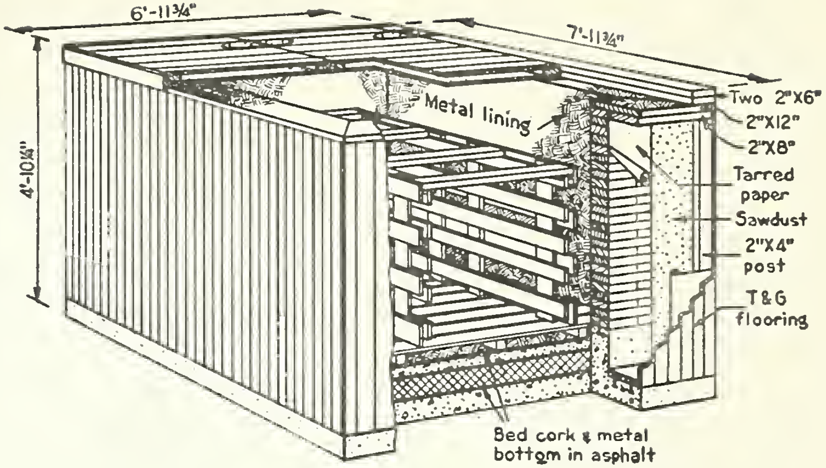
Drawing N 799–5509 (1 sheet)

REFRIGERATOR (side icer)

This small walk-in refrigerator can be readily built from local material and is somewhat more convenient than an ordinary ice box having a heavy lid. Ordinarily 40° F. is about as low a temperature as can be obtained in a box of this type. The side bunker will hold 1,200 pounds of ice and can be readily replenished through the bunker door.

Drawing No. 842–5027 (1 sheet)





MEAT-CURING BOX

This box was designed primarily for curing meat on southern farms. It can be adapted for holding fish, milk, ice, and other products unaffected by high humidity. Tests have shown that an inside temperature of 36° F. can be readily reached and maintained when the outside temperature is between 70° and 80°.

The box shown has a capacity of from 1,800 to 2,000 pounds of meat and 1,600 pounds of ice. The length and height may be increased or decreased, but the width should not be changed.

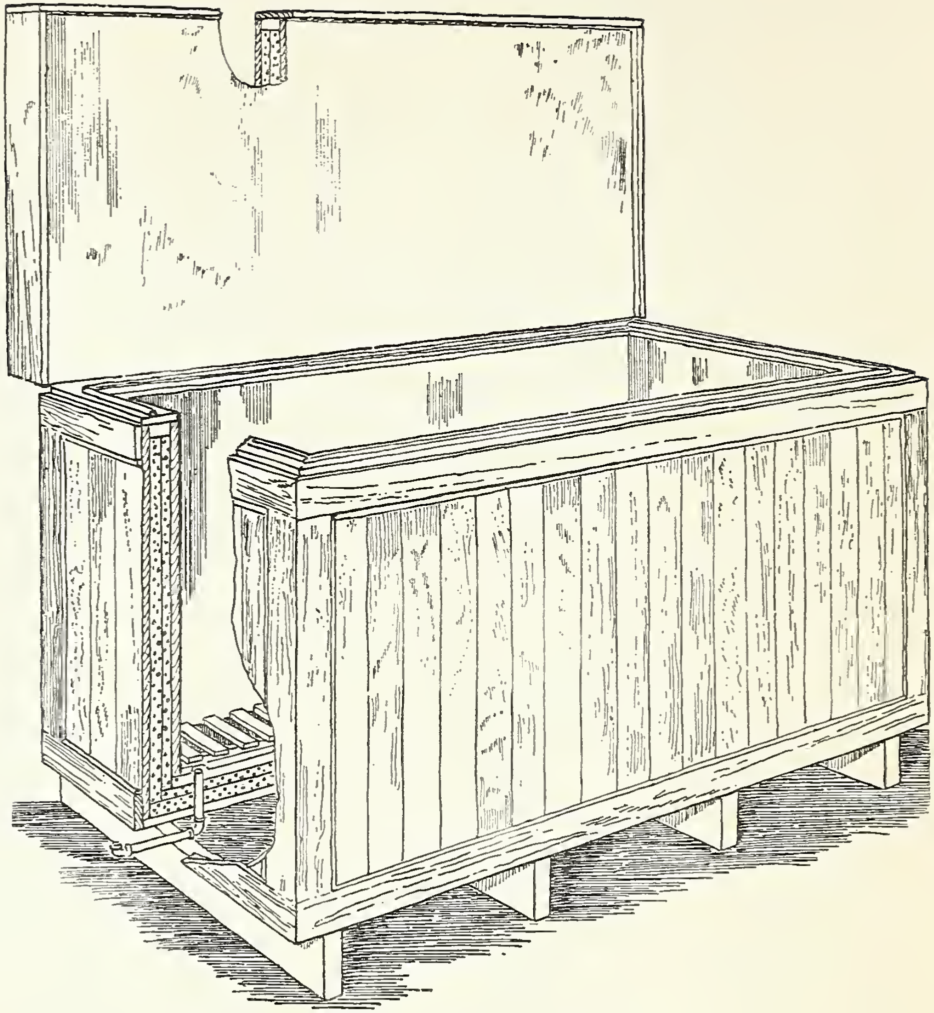
The materials were selected for their efficiency, ease of placing, and permanence. Cork should be used in the floor because of its resistance to dampness.

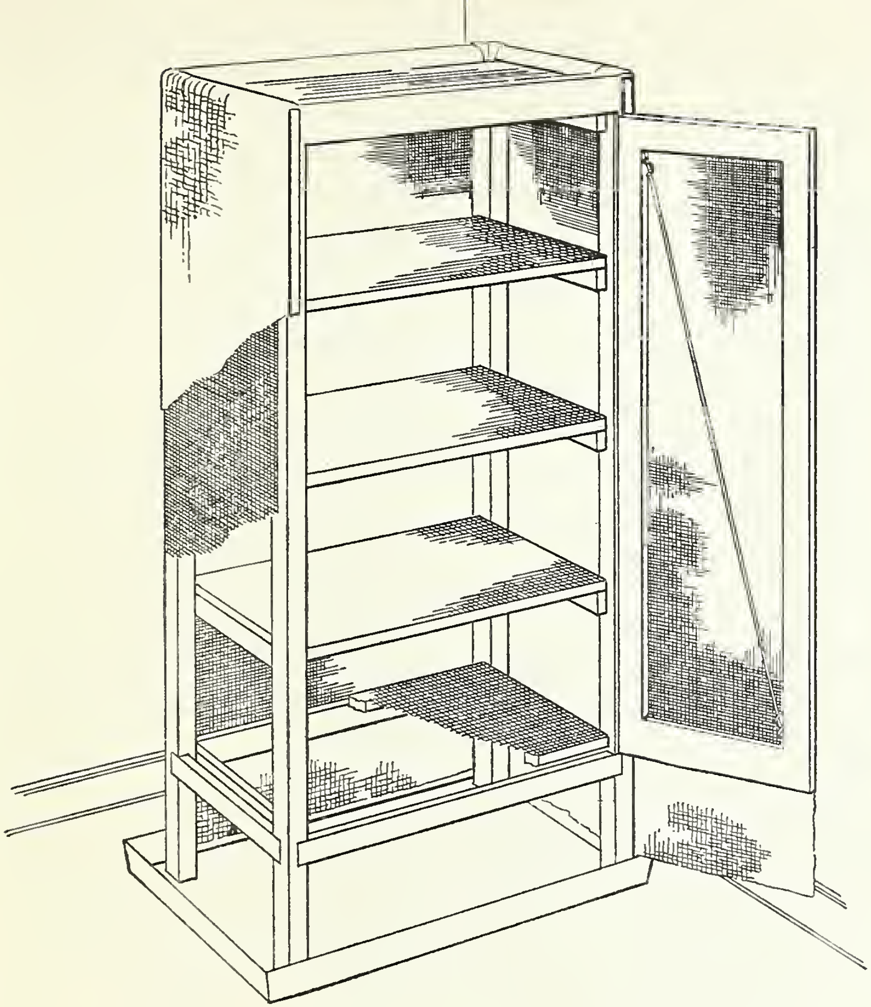
Drawing No. 842–5024 (1 sheet)

ICE BOX

Frequently there is need of an ice box to store household provisions for short periods or to hold several blocks of ice as supply for a small refrigerator. The inside dimensions of the box illustrated will depend on the size of the box required. A 300-pound block of ice measures about 11 by 22 by 44 inches and 4 inches more should be allowed to permit placing the blocks. A box 26 inches wide, 48 inches long, and 36 inches high inside will hold three blocks laid flat. When several cans of milk are to be stored a 36-inch width will be needed.

Drawing No. 842–5510 (1 sheet)





EVAPORATOR COOLER

An evaporator cooler, or iceless refrigerator, is easy to make and costs nothing to operate. The lowering of the temperature is brought about by the evaporation of water from the cloth sides which reach down into a pan. When the device is set in a shady place in a strong and dry breeze, evaporation takes place rapidly and continuously. Under ideal conditions, a temperature as low as 50° F. has been obtained. In muggy weather the efficiency is reduced because the air already carries much water. Therefore, this type of cooler is of little or no use in humid regions. The dimensions shown on the plan listed below are sufficient for ordinary household use; if more volume is needed the height may be increased. The cloth covering should be removable for washing.

Drawing No. 842–5511 (1 sheet)

76559°—39——8

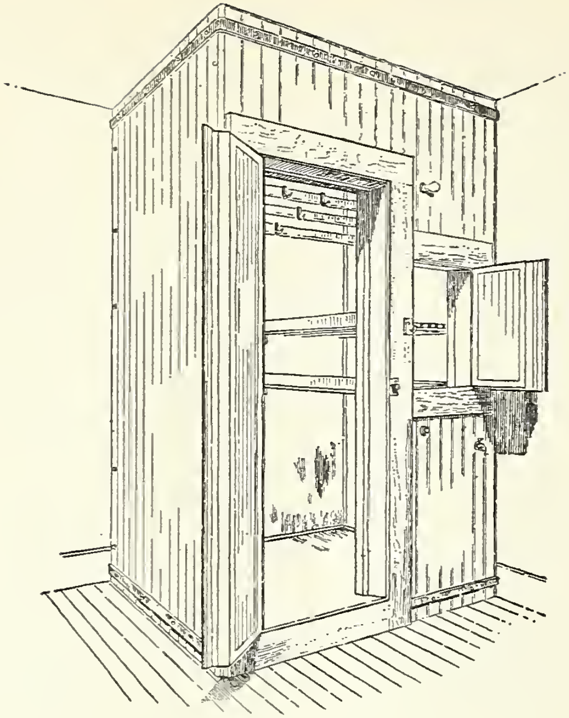
DAIRY COLD BOX

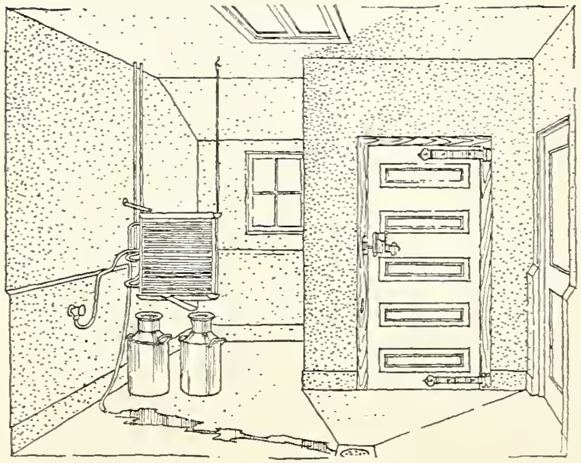
While ice may be used, mechanical refrigeration is generally considered the more efficient and economical medium for large dairies. Such refrigeration may be applied to a water vat or to a dry walk-in type of box such as is shown in this plan.

The size of the box, or its capacity, is of primary importance. To meet the various conditions of use most commonly encountered, a series of five sizes of boxes was designed; the dimensions being given in a table on the plan. For each size and condition, the list gives the recommended size of the brine tank and mechanical refrigeration equipment.

Typical plans of one size of box for both built-in and knock-down construction are given in detail, and sketches of the various types of commonly used refrigerating equipment. Sketches also show three methods of building a separate food-storage compartment adjacent to the dairy cold box and of incorporating it into the refrigerating system.

Drawing No. 842–5514 (3 sheets)





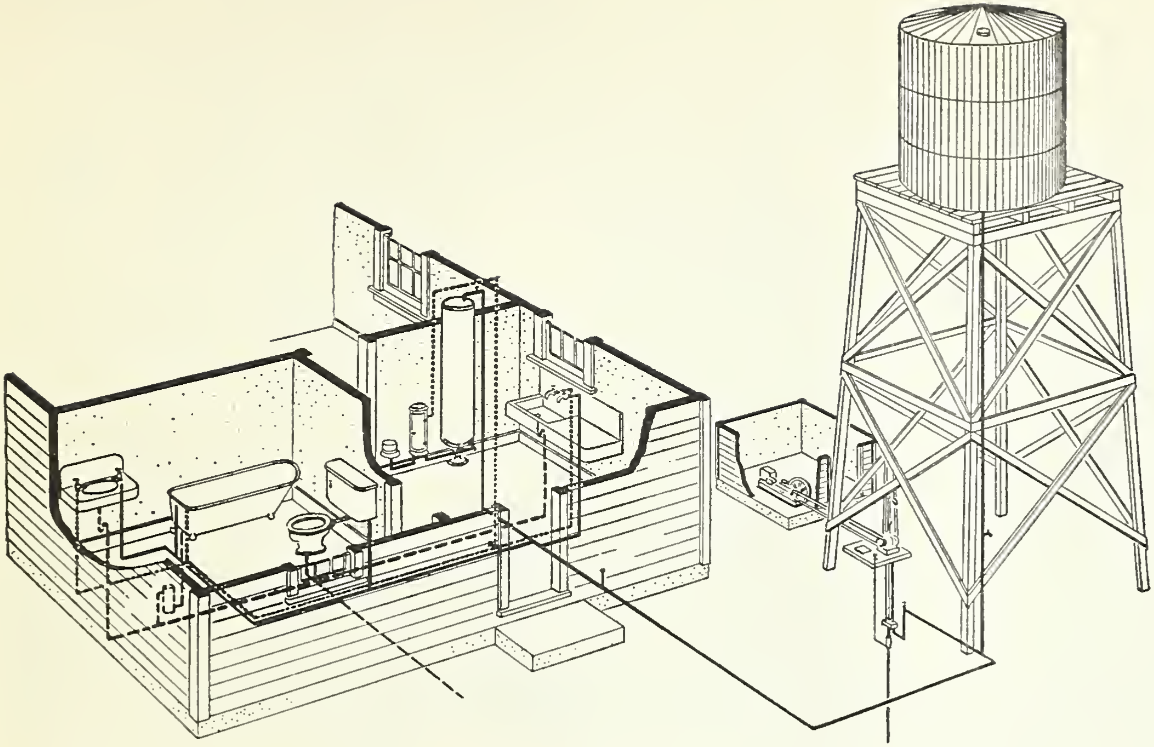
MECHANICAL REFRIGERATOR

For storing relatively large quantities of perishable foodstuffs or limited quantities of farm produce such as eggs, fruit, berries, and milk or cream until marketed, this 80-cubic-foot mechanical refrigerator will meet most farm needs.

The cabinet is a semi-walk-in type, made in six sections so it can be taken apart for transporting. With the exception of the doors, which should be made to order by a refrigerator manufacturer, the cabinet may be built by any good carpenter. Along the right wall, just under the lower shelf, is a water cooling coil which must be connected to the water main and to a faucet on the front. The box cooling coil runs across the top. All of the refrigerating equipment must be purchased from standard commercial designs.

Four 10-gallon milk cans can be stored under the shelves. With shelves in place, there is room to hang half a beef, several hogs, sheep, or veals; with shelves removed, the meat-storage capacity is doubled.

Drawing No. 842–5513 (4 sheets)



SIMPLE FARM WATER SYSTEMS

The diagrammatic drawing on this page shows the lay-out of a complete hot- and cold-water system. Water is pumped by a gasoline engine to an outside elevated tank and flows by gravity to the various fixtures.

Drawing No. 855–5518 (1 sheet)

The piping necessary for four other simple water systems is shown on the following drawings, diagrammatically similar to the illustration.

Piping from a shallow well to kitchen-sink pump and method of filling barrel on an outside shelf to provide water at kitchen faucet by gravity. (Not illustrated.)

Drawing No. 855–5515 (1 sheet)

Cold-water supply to kitchen sink and bathtub; water pumped by gasoline engine to outside elevated tank. (Not illustrated.)

Drawing No. 855–5516 (1 sheet)

Same as drawing No. 5516 with the addition of hot-water piping to kitchen sink and tub. (Not illustrated.)

Drawing No. 855–5517 (1 sheet)

Same lay-out as drawing No. 5518 except that the system is pneumatic instead of gravity. (Not illustrated.)

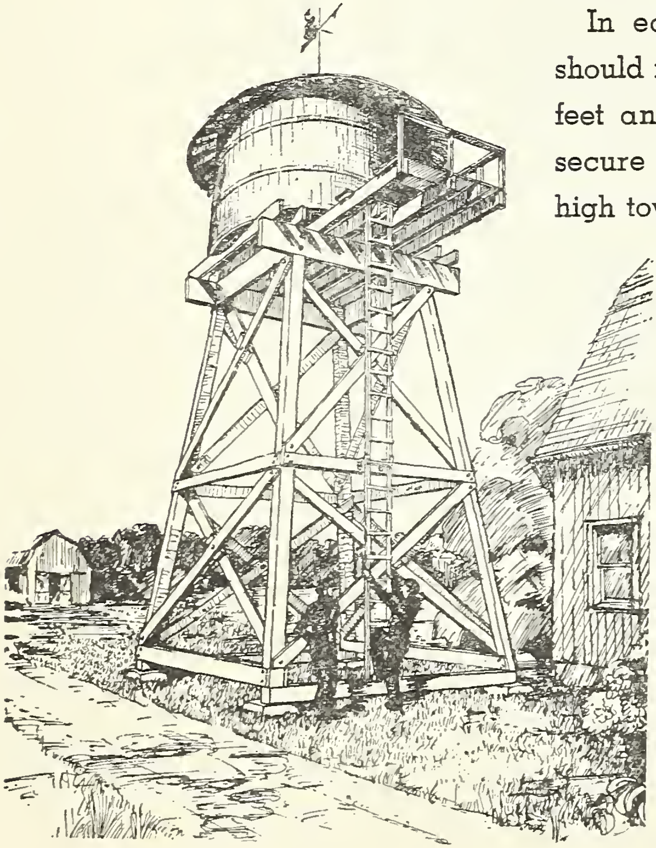
Drawing No. 855–5519 (1 sheet)

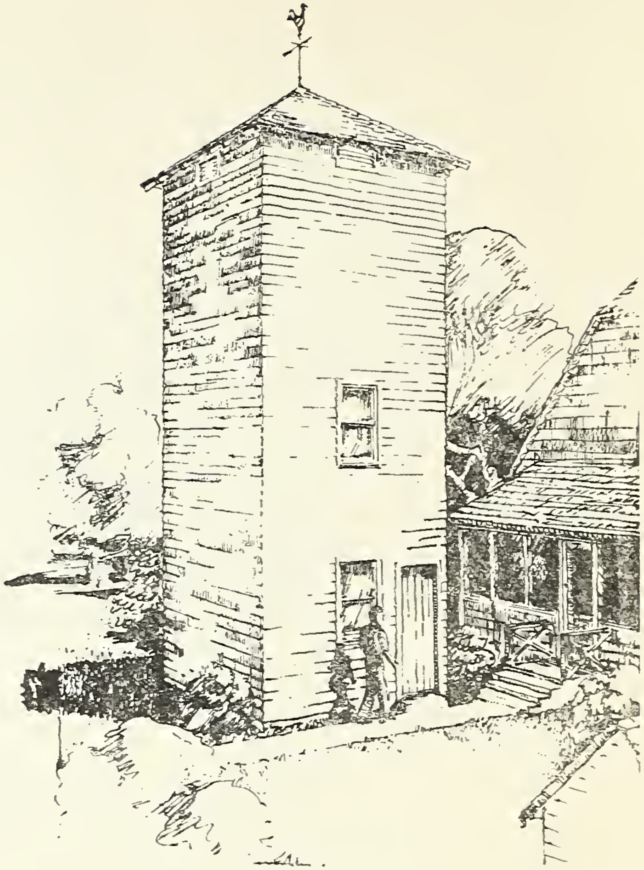
OPEN WATER TOWER

A large reserve supply of water is important on a farm to carry over periods of intermittent pumping and to make a sufficient quantity instantly available for fire fighting. An elevated tank holding 3,000 to 5,000 gallons is a common size. The water in an elevated tank may become unpleasantly warm in summer or contaminated by dust, birds, etc., unless the tank is housed or otherwise tightly enclosed. Except in very cold climates, a wooden tank will practically exclude danger of freezing unless the water is allowed to stand for long periods without use or replenishing.

In earthquake areas the tower should not be much higher than 20 feet and needs rigid bracing and secure footings All footings of a high tower must be on firm ground as a soft spot may permit one leg to settle and wreck the tower.

Drawing No. 855–5520 (1 sheet)

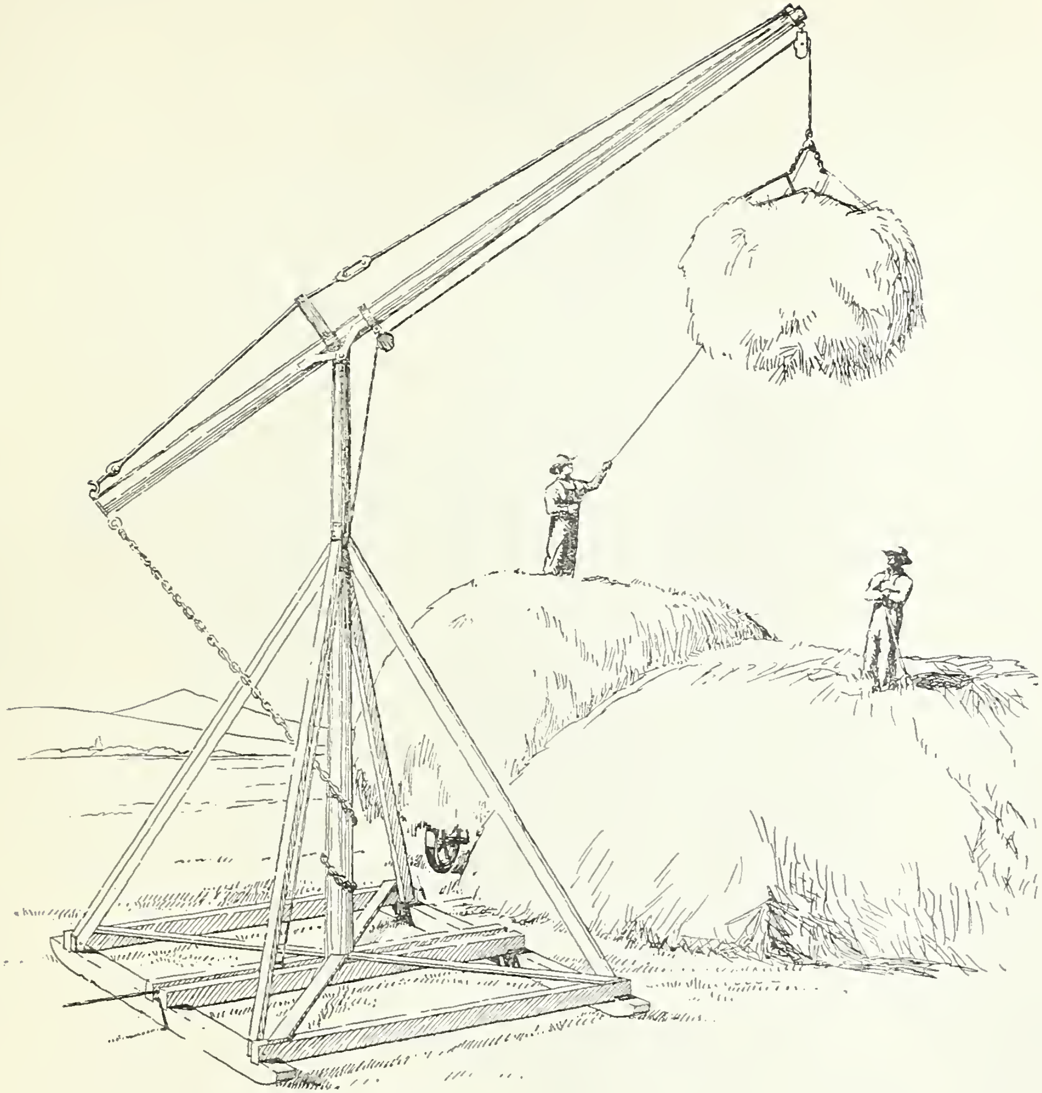




CLOSED WATER TOWER

This tank house is 20 feet high, to the bottom of the platform, supporting a 3,000- to 5,000-gallon tank. Two rooms suitable for storage or workrooms lie one above the other, reached by an inside ladder stair. Metal decking covers the tank platform to prevent leaks into the rooms below.

Drawing No. 855–5521 (1 sheet)



MORMON HAY STACKER

This derrick, the style in most general use and perhaps the best, varies slightly in construction in different sections. In stacking, the hay is usually brought to the stackyard on wagons or slips. Sometimes a sweep or push rake is used. A sling, or one or two chains, is first placed on the bed of the slip and 1,000 to 1,500 pounds of hay is then pitched on. When the slip reaches the stack the sling ends are hooked to the hoisting rope and the whole load is elevated to the stack and dumped.

Drawing No. 317–5522 (2 sheets)

Hay Stacker

Drawings for another type of stacker are available. This is similar to the Wilson type and is of lighter construction than the Mormon but because of the cables more men and time are required to move it. (Not illustrated.)

Drawing No. 317–5523 (2 sheets)

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6526.	Four-room farmhouse, one story, log construction	21
6533.	Seven-room farmhouse, attic	22
6537.	Six-room farmhouse, two story	23
6538.	Six-room farmhouse, two story	24

BULLETINS RELATING TO CONSTRUCTION

COPIES of the following bulletins, except those indicated by an asterisk (*), may be obtained free from the United States Department of Agriculture. Those indicated by an asterisk (*) can be purchased only from the Superintendent of Documents, Government Printing Office, Washington, D. C., for the prices noted (stamps not accepted).

FARMERS' BULLETINS

744. The Preservative Treatment of Farm Timbers
810. Equipment for Farm Sheep Raising
847. Potato Storage and Storage Houses
879. Home Storage of Vegetables
920. Milk Goats
1078. Harvesting and Storing Ice on the Farm
1132. Planning the Farmstead
1214. Farm Dairy Houses
1227. Sewage and Sewerage of Farm Homes
1318. Greenhouse Construction and Heating
1342. Dairy Barn Construction
1350. Beef Cattle Barns
1393. Principles of Dairy Barn Ventilation
1412. Management of Dairy Bulls
1419. Care and Management of Farm Work Horses
1426. Farm Plumbing
1442. Storage of Sweet Potatoes
1448. Farmstead Water Supply
1452. Painting on the Farm
1460. Simple Plumbing Repairs in the Home
1472. Preventing Damage by Termites
1487. Practical Hog Houses
1490. Hog Lot Equipment
1500. Rammed Earth Walls for Buildings
1512. Protection of Buildings and Farm Equipment from Lightning
1513. Convenient Kitchens
1538. Incubation and Brooding of Chickens
1554. Poultry Houses
1572. Making Cellars Dry
1582. Protection of Log Cabins and Rustic Work and Unseasoned Wood from Insects
1584. Feed-lot and Ranch Equipment for Beef Cattle
1590. Fire-Protective Construction on the Farm
1636. Farm Bulk Storage for Small Grain
1638. Ratproofing Building and Premises
1643. Fire Safeguards for the Farm (5 cents)
1649. Construction of Chimneys and Fireplaces
1660. Use of Logs and Poles in Farm Construction
1698. Heating the Farm Home
1701. Corncribs for the Cornbelt
1703. Reservoirs for Farm Use
1710. Range Sheep Production
1720. Adobe or Sun-dried Brick for Farm Buildings
1730. Rabbit Production
1738. Farmhouse Plans
1743. Hotbeds and Coldframes
1749. Modernizing Farmhouses
1751. Roof Coverings for Farm Buildings
1756. Selection of Lumber for Farm and Home Building
1772. Use of Concrete on the Farm

LEAFLETS

56. Preventing Cracks in New Floors
62. Why Some Wood Surfaces Hold Paint Longer than Others
68. Roadside Markets
*77. Bracing Farm Buildings (5 cents)
*87. Wind Resistant Construction for Farm Buildings (5 cents)
101. Injury to Buildings by Termites
124. Sash Greenhouses

CIRCULARS

155. The Ice Well for the Dairy Farm
*254. Greenhouse Heating (5 cents)
*278. The Commercial Storage of Fruits, etc. (10 cents)
*335. Distillate Burners (5 cents)
*336. Cooling Milk on the Farm with Small Mechanical Outfits (5 cents)
*406. Oil Burners for Home Heating (5 cents)
447. The Freezing Temperatures of Some Fruits, Vegetables, and Florists' Stocks

*Miscellaneous Publication 138, Refrigeration in the Handling, Processing, and Storing of Milk and Milk Products (10 cents)

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Supplemental Plans

NOTE: Request the extension service of your State college of agriculture to mail you a list of the plans and bulletins illustrating the construction of other farm buildings especially recommended for use in your State.

Keep the list in this envelope.